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MANIOC: AN EXAMPLE OF INNOVATION IN AFRICAN ECONOMIES*

It is only within the past 100 years that Europeans have effectively penetrated the interior of the African continent, and effective European political control over most of Africa dates from the closing decades of the 19th Century. Effective cultural contact between European and African cultures is therefore sometimes thought of as being similarly recent. Even anthropologists have occasionally seemed to equate the beginning of cultural contact in Africa with the first face-to-face meeting of Africans and Europeans. Günter Wagner, for example, when writing in 1938 of culture contact in Kenya, said: The present situation [in Kavirondo, Kenya] is therefore the result of about thirty years of effective contact¹ (1, p. 93).

In fact, effective cultural contact between the two societies goes back at least two thousand years, perhaps longer, and with the establishment of Portuguese stations along the African coast in the 15th Century this contact was much intensified. For although Europeans themselves did not travel far from the coast for another 350 years, many of the things they brought with them spread over most of sub-Saharan Africa, and there was probably no African society that had not adopted some elements of exotic culture before the European occupation in the 19th Century.

The anthropologist's tendency to identify culture contact with European occupation undoubtedly derives from his preoccupation with revolutionary changes in total cultures that have been under way for the past 50 or 100 years. Compared to these full-scale collisions of European and African societies, the earlier contacts are relatively undramatic, although they may have resulted in fundamental changes in native life. The early innovations, however, have a special interest of their own, providing as they do illustrations of the free response of African society to exotic elements as contrasted with its more or less coerced response under colonial administration.

If the anthropologist is aware of the influence of earlier contacts, the same surely cannot be true of those who believe in the native's total resistance to change. The idea that special pressure from authority, even physical force, must be employed in order to make Africans adopt innovations that obviously would be greatly to their advantage is the frequently met consensus of hotel terraces and bars. It is expressed in its most extreme form by C. F. Spence, in a book published in 1951 that treats of economic affairs in Mozambique. According to Spence, "No African native normally changes his habits or tries new

*Without in any way shirking responsibility for possible errors of fact and interpretation in this article, I should like to express my gratitude to my colleagues who helped me to remove inaccuracies and ambiguities from it when it was in preliminary form. I am particularly indebted to Helen C. Farnsworth, E. Louise Pepper, and Bruce F. Johnston of the Food Research Institute and to William D. Hohenthal, Jr., of San Francisco State College.

¹ A similar sense of the recency of European-African culture contact is present in essays of the other contributors to the symposium on culture contact in Africa in which Wagner's article appears (52).

experiments unless circumstances force him to, so that the development of exotic crops suited to the country is dependent on European enterprise." (7, p. 52).

Official reports of various governmental agencies reflect the belief that the African is irrationally conservative in his attitude toward new food crops, and that only government action can lead him to plant crops that will protect him from seasonal hunger, even starvation. It is reported, for example, that in the Kitui district of Kenya in 1946 although there are various Local Native Council resolutions aimed at preventing the recurrence of famine, especially by planting drought-resistant crops, it has been impossible to enforce them in practice." (3, p. 1). In South Kavirondo, Kenya, in 1948 "... little result has occurred from continued propaganda to plant cassava [manioc]," (2, p. 36), and in the Central Province the losses of planting material that occurred were "... avoidable and entirely due to laziness and apathy." (2, p. 57).

In the Central Province of Tanganyika, in 1945, it is asserted that "The efforts required of the people for their own salvation ... were pressed for assiduously by the Provincial Administration in all districts." (4, pp. 52-53). In Tanga and Pangani districts in 1949 most of the Native Authorities "... are apathetic and directions for cassava planting have mainly to remain a prerogative of Government." (5, p. 140). And in the Masuma district in 1939 it is "... difficult to persuade the people to grow cassava which is unpopular as a food." (6, p. 36). In the Western Province, in 1944 "It is the custom ..., a custom which has behind it the force of penal sanctions for non-observance of it, for each man to plant an acre of cassava at the beginning of the rains and another acre later on." (53, pp. 102-103).

Such views as these are not echoed by the anthropologists, who probably best understand the workings of the African mind. Herskovits, who knows a great deal about the African people, says that change is nothing new to sub-Saharan Africa. It is as unrealistic to attribute excessive stability to African cultures during the centuries before European occupation as it is to overemphasize change in present-day African life." (8, p. 11).

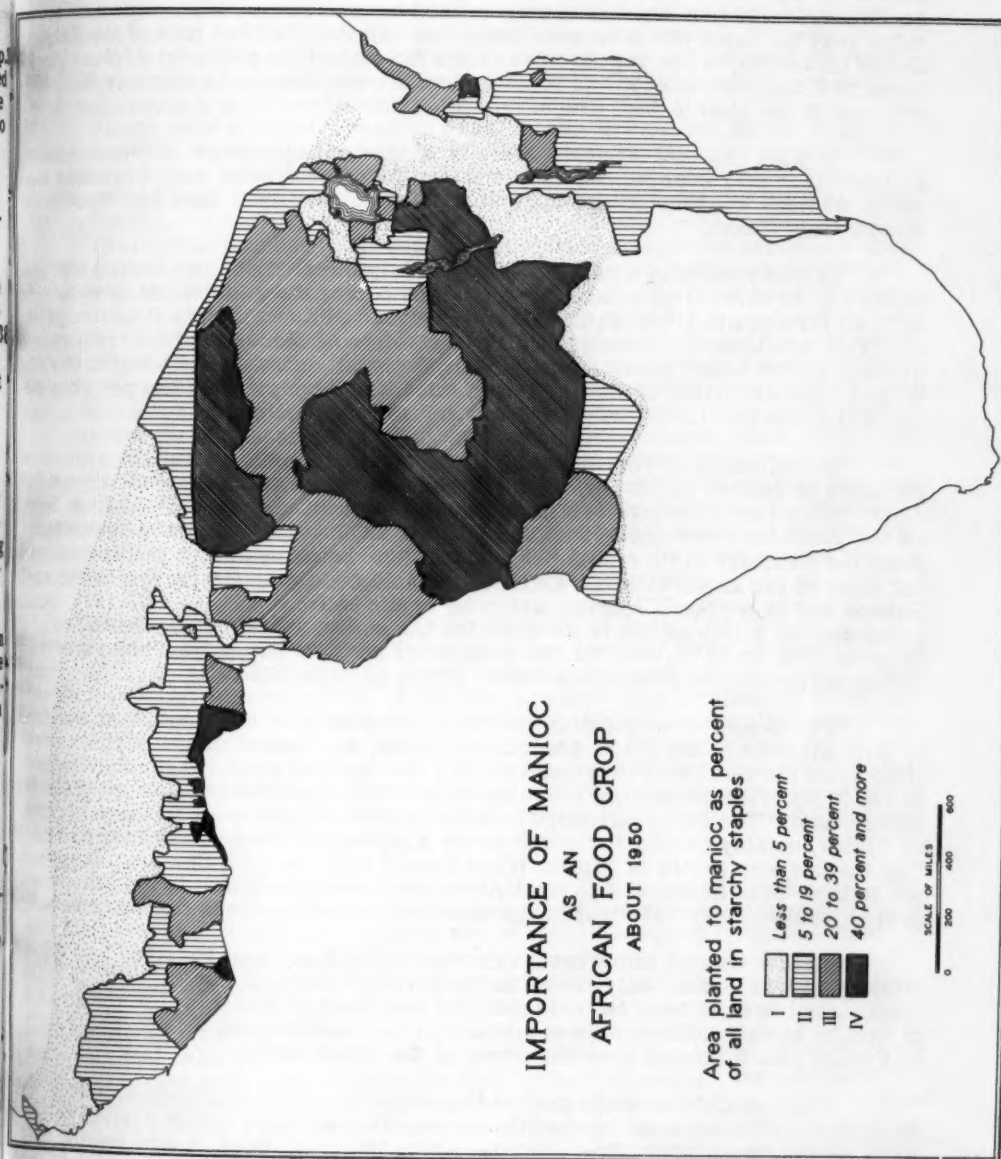
Probably the most impressive evidence of culture contact, and of innovation in Africa, is the very important place that certain American crops occupy in native agriculture and native diets. Corn (*Zea mays*), one of Africa's major cereals, peanuts (*Arachis hypogaea*), an important source of vegetable oils and protein, French beans (*Phaseolus vulgaris*), and lima beans (*Phaseolus lunatus*), principal sources of vegetable protein, and manioc¹ (*Manihot utilissima*), Africa's major root crop, all originated in the New World and all were brought to Africa by Europeans after 1492. They were probably all introduced at coastal stations sometime in the 16th Century: their use spread from tribe to tribe throughout Africa, long before Europeans had penetrated beyond the coast.

Of these five, manioc is particularly interesting because of the large contribution it makes to the total African food supply, because of its high yield in food calories per acre of land, because of its productiveness on poor soil and in the face of drought and invasion by insect pests, and because of the special techniques that have been developed for converting it into a food.

Some notion of the importance of manioc in African food economies may be obtained from Map I showing the area planted to manioc as a proportion of all land in starchy staples. Caution must be observed in interpreting the data there presented, as in interpreting all African statistics. The reports of agricultural production on which the map is based are often conjectural; none of the African countries has taken a complete census of African agriculture, and sample censuses exist for only a few.² Furthermore, manioc is a notoriously difficult crop to measure. One crop may occupy the land for eighteen months or more, it is frequently interplanted with other crops in irregular patches, and it often continues to grow in fields that have

¹ Also called cassava, cassada, mandioca, and yuca in Africa.

² Southern Rhodesia, Northern Rhodesia, Nyasaland, parts of Tanganyika and Nigeria.



MAP I

been invaded by forest or brush. But the broad zones shown in the map probably are a rough indication of manioc's importance.

The Belgian Congo is easily the region where manioc makes the greatest contribution to total food supply. Of 1,862,000 hectares reportedly devoted to food crops by natives in 1953 (excluding oil palms), 563,000 hectares, or 30 per cent were planted to manioc. According to the crop estimates for 1950, manioc accounted for 40 per cent of acreage in food crops. (40, p. 607). The correct value may lie some place between these two. In the southern part of the Belgian Congo (Zone IV), in the region where once flourished the powerful African kingdoms of Congo, Bushongo, and Baluba, manioc may take up as much as 60 to 70 per cent of the land in food crops.

In west and east Africa manioc is of lesser importance, although it plays an important role everywhere as a supplementary food crop, and is a major staple in western Tanganyika and along the Guinea Coast from the Cameroons to the middle Gold Coast.

In many parts of equatorial Africa, Belgian, British, and French administrators have carried on sustained campaigns during the past two decades to induce African farmers to grow manioc, and the spread of the crop into the drier parts of Africa has been the consequence of these efforts. Because of its resistance to drought and to locust invasion manioc has special appeal in the interior of French West Africa and parts of British East Africa. Its high productivity per acre has made it attractive in the Belgian Congo and in Ruanda-Urundi.

But although Europeans can claim some responsibility for the present importance of manioc in Africa, it had spread over most of its present range before 1850. When David Livingstone first crossed the continent in 1853-55 from Seesho on the Zambezi river above Victoria Falls to Loanda in Angola and thence back down the Zambezi to its mouth, he found manioc being used as a staple food throughout most of the area. (41). Du Chaillu reported manioc in the forests of the eastern Gaboon and in northern Angola, which he explored from 1855 to 1859. (42). Stanley found manioc all along his route down the Congo in 1876-77. (43). And when Schweinfurth, in 1870, reached the Uele river near its headwaters, he reported seeing large manioc plantations there. (44, I, pp. 485, 525-27).

There can be no question that this somewhat peculiar food plant, originally domesticated by the South American Indians, was introduced to Africa sometime after the discovery of America. The Portuguese extended its distribution in South America because of its value in provisioning their stations along the Brazilian coast. They also introduced manioc at their stations along the west coast of Africa, notably on São Tomé and in the Kingdom of Congo. There is no evidence that manioc was grown at Elmina (Gold Coast) until the 19th Century. It appears not to have been introduced to East Africa until relatively late in the pre-colonial period, perhaps after 1780, although this must remain a matter of conjecture.¹

Manioc was an important food crop in São Tomé and Príncipe by 1700, but although it was undoubtedly known to the Africans living in the Niger delta it appears not to have been important on the mainland at that time. In the kingdom of Congo, however, the crop was adopted by the natives, and it is probably from this focus that it spread over the whole of the Congo basin.

It is possible to trace part of the route of manioc into central Africa, and in so doing to learn something of the circumstances under which African tribes were willing to adopt it. There is also some information as to why manioc became an important foodstuff in Nigeria, Dahomey, Togo, and the Gold Coast much later than it did in the Congo. The introduction of manioc to these two areas is the principal subject of the following sections. Before manioc's introduction can

¹Manioc was introduced into Rennion in about 1735. From there it was presumably carried to Madagascar and possibly to East Africa. It is possible, however, that the Portuguese grew it in the Zambezi valley before this date.

be discussed, however, it will be necessary to describe more fully the manioc complex as it had been developed in South America before the coming of the Europeans.

The Manioc Plant

The manioc plant is a perennial woody shrub of the Euphorbiaceae family. It is grown principally for its swollen storage roots, of which each plant may have six or more, and which are from 25 to 35 per cent starch. The leaves of the plant may also be eaten, and although unimportant as a source of calories, the leaves do contain significant amounts of protein and other nutrients likely to be deficient in a starch-dominated diet.

Plants very similar to manioc grow wild in Brazil, but do not produce storage roots of value. Nor have attempts to transform the wild varieties into the economic plant been successful. Manioc is a cultigen, developed from one or more of the wild varieties long before Europeans first visited the New World. (45, pp. 60-63).

The manioc plant is propagated from stem cuttings: the seeds are viable, but percentage of germination is usually low. Propagation from cuttings has several implications for the economics of manioc. Planting need involve no more than pushing the short lengths of stem into the ground, and it is not necessary to prepare a seed bed other than by partial clearing of the natural forest or grassland cover. The plant puts out roots quickly, and soon establishes sufficient leafy cover to hold down weeds. Vegetative propagation also means that when the farmer has found a plant with desirable characteristics he can preserve these characteristics in succeeding generations, since each "generation" is in fact a part of the original plant. On the other hand, the planting material will not withstand storage nearly as well as seeds do, so that greater care is required to transport it, and carriage over long distances is difficult. Furthermore, transmission of the plant requires a prior conscious decision as contrasted with wheat or corn, for example, that may grow from grains fallen accidentally from a food store or carried by birds or rodents.

Roots of the plant reach edible proportions in from 6 to 12 months. If not harvested they remain edible, increasing in size until 24 to 48 months after planting. Roots of most varieties are of optimum size and starch content when the plant is about 18 months old. After this age they may continue to grow, but become more woody and the starch content falls. Manioc is usually harvested by cutting off the plant near the ground and pulling or digging all the roots, but roots may be taken one at a time and the plant permitted to continue growing until all have been harvested. The long period during which roots are edible makes manioc an excellent reserve crop that costs little to grow up to harvest and that need not be harvested until it is wanted.

Yields of manioc per acre are very high. Under typical African conditions manioc can produce more calories per acre than any other tropical staple with the possible exception of bananas and of double-cropped irrigated rice.

Yields under usual field conditions in Africa range from 1 ton to 10 tons of fresh roots per acre, or from 1.2 million calories to 12 million calories. If it is assumed that an adult male requires 3,000 calories per day, and this is presumably too high for Africans in the tropics, one acre of manioc will supply sufficient food calories for from one to ten men for a year.¹ The West African yams sometimes have a gross yield as high as that of manioc, but net yield is considerably lower because as much as one-third of the yam crop must be used for seed. In Africa, rice and all other cereals normally yield less than half as many calories per acre as manioc. Banana and plantain yields approach those of manioc, but this may well be because the soil on which they are grown is better than that in which manioc is planted, and because much more care is exercised in growing them. Under experimental conditions manioc yields of 48 tons per acre have been reported from the Belgian Congo. (9, p. 8).

¹Anyone who tried to live only on manioc would probably not see the year out. Manioc provides calories only; it is almost completely lacking in proteins, fat, and most vitamins and minerals.

The plant will not stand frost, but it tolerates a wide range of soil and moisture conditions. Manioc does best in light soils that permit easy extension of its roots, but it can be grown in almost any soil that does not become water-logged. It will grow and produce storage roots in soil that is very poor in plant nutrients, and it is typically grown in fields that have been largely exhausted by other cultivation. It seems not to thrive when annual rainfall is below thirty inches, but once established can live through the long seasonal droughts that are frequent in the tropics. Very important in Africa is its ability to survive invasions by locust swarms, and to continue to produce edible roots under attacks that destroy all other food plants. It has few pests, and only relatively minor diseases.¹

The manioc root, although rich in starch, contains very little protein or fat and very small amounts of most vitamins and minerals. Ascorbic acid and calcium, however, are present in significant quantity, and where manioc is consumed as a staple it can make a substantial contribution to daily requirements for these two nutrients.² The manioc leaves, on the other hand, are rich in protein, calcium, and ascorbic acid, and contain significant amounts of iron, and of the A and B vitamins. Use of manioc as a staple food has been criticized because of its deficiency in protein, and it is of course true that a diet consisting largely of manioc, with no supplementary protein food, would be most unsatisfactory. But when the leaves as well as the roots are eaten, manioc comes close to justifying the name of "the all sufficient" that was given it by natives in southwestern Congo because "We get bread from the root and meat from the Leaves." (13, p. 131).

In addition to starch, calcium, and ascorbic acid, fresh manioc roots contain prussic (hydrocyanic) acid, frequently in lethal amounts. The proportion of prussic acid varies with the plant, and it was long believed that there were two distinct species of the plant: one, the "sweet manioc" that was nontoxic; the other, "bitter manioc," that was poisonous. It is now reasonably well-established that there is only one species, that prussic-acid content varies with the clone from very little to very much, that the so-called sweet manioc contains some prussic acid but mostly in the skin, and that the content of prussic acid of one and the same clone may vary with soil and climate.

The Manioc Complex in Brazil³

In order to understand the ways in which manioc culture was incorporated in tropical African economies, it is necessary first to consider the ways in which manioc was used in the New World before the coming of the whites. Comparison of the methods of preparing manioc in South America and in Africa provides a measure of the completeness of transmission of the complex, and also makes it possible to identify new uses or processes that were developed in Africa.

¹In Africa manioc suffers from a virus that does great damage to the leaves. How seriously this "manioc mosaic" reduces the production of starch has not been established. Attempts to develop mosaic-resistant strains have been only partially successful.

²Fresh manioc roots contain 25 or more milligrams of calcium and from 25 to 30 milligrams of ascorbic acid (vitamin C) per 100 grams of edible portion (10, p. 30; 11, pp. 12-13). Another New World root crop, the Irish potato, played an important part in ending scurvy in western Europe because of its richness in vitamin C (cf. 10, pp. 123, 304). Fresh manioc contains up to twice as much of the anti-scorbutic vitamin as do potatoes. How much of the ascorbic acid may be lost in processing into flour and meal has not been established. Probably the loss is large.

³Called aipim or macaxeira in Brazil.

⁴Only the material complex is discussed here.

The South American Indian removed prussic acid from the manioc roots by leaching, rotting, and heating or by various combinations of these processes. Some roots, with very low prussic-acid content, are safe to eat raw once they are peeled, but more often the Indians boiled or baked these sweet varieties in much the same way as they did the Irish potato.¹ The heat of cooking was sufficient to eliminate all toxicity. Plants with low toxicity that could be treated as a vegetable were more widely grown than the toxic varieties that required more complicated processes in order to make them fit for consumption, but where manioc was the principle dietary staple, the bitter forms were usually grown. The Indians prepared four kinds of products from the root of the bitter manioc: meal, flour, starch, and a stock for sauces.

The best known, and perhaps the most important, is the coarse meal known in Brazil as *farinha da mandioca*. To prepare it, freshly dug roots are first washed and peeled, then reduced to a pulpy mass by means of a grater made of a flat piece of wood studded with sharp stones.² The mass is then put into a cylindrical basketry press, resembling the Chinese "finger trap," so designed that the diameter and volume are reduced when the two ends are pulled apart.³ After pressing for a few hours, the pulp is removed and forced through a sieve, then put into a shallow basin over a low fire and stirred until it is toasted. The final product can be kept for several months. It can be eaten dry, or mixed with either hot or cold water. Meal can also be prepared by putting the fresh roots to soak and ferment for three or four days in pools along the edge of a stream, then processing them as for *farinha da mandioca*. When prepared in this fashion the final product is called *farinha d'agua*.

Manioc flour is prepared from roots that have not been grated, but that have been dried in the sun or over a slow fire, sometimes directly from the field, sometimes after soaking, and then pounded to a smooth powder. When made from macerated roots, this flour is called *carima* in Brazil (after Nieuhoff, 47, p. 860). The flour prepared from roots that have not been soaked is essentially the same as the *farinha da raspa da mandioca* of Brazil or the *gaplek* meal of Java. Pure starch is obtained by putting the grated roots into a large pot after they have been pressed, adding water, and stirring thoroughly. The starch is then allowed to settle out and the water drawn off. If this process is repeated two or three times, and only pure water is used, the resulting product is a fine clear starch. The starch may be sifted while still damp and toasted as when preparing manioc meal to yield the product known as *tapioca*.

A by-product of the manufacture of meal and tapioca is the juice expressed from the grated roots. This may be caught in a pot and boiled down to make a stock for soups and sauces. In the West Indies this liquid is called *cassareep*, in Brazil it is *manipuera*. Starch can also be extracted from the juice by permitting it to settle.

The two special instruments associated with the processing of manioc, the grater and the basketry press, appear to have been American inventions and were probably integral with the manioc complex (48, p. 51).

The two kinds of meal and the various kinds of flour are very often made into a sort of flat bread, the cassava cakes, very thin and hard and up to three feet in diameter. Cakes can be prepared either from the wet meal before it is dried, or by mixing dry meal in flour with water. Small cassava cakes are commonly called *beiju* in Brazil. The wet meal, or the paste made from macerated roots,

¹ Not the same Indians, of course. Potatoes and manioc can rarely be grown in the same area.

² The Brazilian diamond deposits are said to have been discovered when some stones in a particularly attractive manioc grater purchased by an English curio hunter were found to be rough diamonds. (46, pp. 276-77).

³ Other kinds of basketry and fiber presses were used, but the one described seems to have been the most common.

can also be made directly into balls or loaves that are cooked by steaming or boiling.

All of the modern methods for processing manioc roots are derived from Indian methods, and the ancient processes are still employed in many parts of the tropics. In fact, some of the tapioca of commerce is prepared by methods very little improved over those used in Brazil before the arrival of the Europeans.

Manioc leaves were used occasionally by the Indians as a spinach, and were called *manikoba*. (49, p. 131, n.). There are so few references to them in earlier accounts, however, that it must be concluded that this use was uncommon.

Manioc in the Congo

The sustained series of voyages of exploration that began with the achievement of Cape Bojador in 1419 brought the Portuguese to the mouth of the Congo River in 1482. Two years later they were in communication with the King of Congo in his capital at Mbahza Kongo (San Salvador) some 200 miles inland. By 1506 the King of Congo was the Christian ruler of a more or less Christian realm and recognized as such by the King of Portugal and by the Pope.

The Kingdom of Congo had probably come into being in the 14th Century as a result of conquest by invaders from north of the Congo River. When first visited by Europeans its influence extended from the Congo River south to about the present city of Loanda, and as far inland as Stanley Pool, perhaps even to the Kwango River. (Map II). It also included some territory on the right bank of the Congo River, opposite the present Thysville. But the king's authority was strongest along the left bank of the Congo, from Stanley Pool to the Atlantic, and it diminished rapidly south of the Ambriz River.¹

The rulers of Congo received the Portuguese with enthusiasm, and attempted to imitate them both in their religion and in their material achievements. They asked that the Portuguese bring them not only the cloths and consumer's goods of Europe, and of course guns and cannons, but also masons and carpenters to build stone churches and other buildings, and missionaries to instruct them in the new faith and to teach them reading and writing. The King of Congo sent many young men of his realm to be educated at the court at Lisbon and included among them was his son Dom Henrique, who became the first Bishop of Congo in 1521. (14, p. 213).

The result was that for over a hundred years Portuguese and Congolese were in the closest communication and there was regular and profitable trade between the two. During this period there was free intercourse between Africans and Europeans, and transfer of cultural elements was relatively easy. And the goods and knowledge that the Congolese obtained from the Europeans in exchange for slaves and ivory increased the power and renown of Congo throughout the region.

It is not possible to establish with accuracy at what period the Portuguese first brought manioc, or other New World crops, to their Congo stations. Two fragments of information suggest that the time was fairly early. The first comes from Sir Richard Hawkins' report of a voyage he made in 1593. In describing the capture of a Portuguese ship off the coast of South America, he says that its cargo was "... meale of cassavi, which the Portingals call *Farina de Paw*. It serveth for marchandize in Angola, for the Portingals foode in the ship, and to nourish the negroes which they should carry to the river of Plate." (15, p. 95). If manioc meal was actually carried to Angola as "marchandize" we should be inclined to infer that it was not produced there; on the other hand it is a little hard to believe that it would be carried across the Atlantic from Brazil to provision westbound ships. But according to

¹This brief account of the Kingdom of Congo is drawn primarily from 14.



Map II

Barbot, in 1700, it was used to provision ships going from Brazil to Portugal, and if enough was carried it could also be used to feed the crew on the return voyage. (22, p. 401).

That the manioc plant was grown in Congo at this time, even though it might not have been made into meal, is suggested by oral tradition of the Bushongo, a people to the east of Congo, about whom more will be said presently. Manioc was unquestionably an important food in northern Angola by the 1660's as is attested by the reports of Michael Angelo and Denis de Carli who visited Loanda in 1666-67. (16, p. 157). A statement by Merolla, however, reporting a visit to Congo in 1682, is a little hard to reconcile with Bushongo tradition, for Merolla says that manioc was ". . . more used by the Portuguese than Blacks, either because they have a better way of planting these roots, or by reason that they will last several years." (17, p. 246).

There is also the fact, noted by Torday, that Andrew Battel, who in about 1603 visited Loango, which bordered Congo on the north, mentions many crops cultivated there but says nothing of manioc. (18, p. 167). But Loango was not a part of Congo. There were ties of kinship and some sort of informal alliance between the two countries, but the northern and older country could easily have been untouched by much that happened south of the river.

Far to the east of Congo, in the angle formed by the Kasai and Sankuru Rivers, lay the realm of the Bushongo or Bakuba. In the years 1907-09, Torday and Joyce visited the Bushongo and recorded their oral traditions. (19). Because of the inclusion in these traditions of the occurrence of an eclipse of the sun that could be dated as having taken place in 1680, and because of other internal evidence, it was possible to attach dates with considerable accuracy to many events that figured in the traditions.

The Bushongo said that when they first came to their present residence their food was principally millet, bananas, and yams.¹ Manioc and peanuts were introduced later by a woman, Sheme Shunga, who was chief of the Bienge.² At first manioc was treated as a vegetable, being simply sliced and boiled. Later, under the king Bom Bosh, in about 1650, the Bushongo learned how to make manioc "bread," the chickwangué of the Congo basin. (see p. 29). But despite this tradition of early acquaintance with manioc, it was not an important food until after 1904, and Wolf, who visited central Bushongo in 1884, said that manioc was not eaten there. (19, p. 249).

In the eastern section of Bushongo, however, manioc was very important and here Torday and Joyce recorded the following legend of its origin (19, p. 249):³

"There was once a king of Bushongo who was called Samba Mikepe (or Shamba Bolongongo) who was the wisest man who had ever lived. Before he mounted the throne, he made long voyages toward the west; no one knows to what distance to the other side of the Kasai River he went, and it was from this that he acquired his wisdom During one season of his reign the harvests of the Bushongo were completely destroyed by locusts and the people were in imminent danger of perishing from hunger. But they were saved by Samba Mikepe who showed them the use of manioc which could not be destroyed by any amount of locusts."

The fame of the King of Congo had spread far beyond the boundaries of his own realm in the course of the 16th Century, and sometime between 1574 and

¹ Torday and Joyce believed that the Bushongo empire was formed by a warrior people who came from north of the Congo forest and established themselves as masters of the indigenous Baluba. (19, pp. 43-44).

² A subdivision of the Bushongo.

³ My translation from the French.

1614, Shamba Bolongongo, before ascending the throne, had made an extended trip to the west, probably visiting the great court at San Salvador, just as Dom Henrique had visited the great court at Lisbon a century before. Shamba Bolongongo learned the customs of the Congolese court, and reproduced them to the best of his ability in his own country in the interior of the continent. According to Torday (18, p. 160):

"Bushongo stands alone among the surrounding peoples, not only for its artistic achievements but also for its social organization. Tradition proclaims that this is due to the genius of King Shamba Bolongongo It proclaims how the king came to work his far-reaching changes and reforms by one sentence: Shamba saw the Pene, saw the Abono, saw the Badinga, saw the Bapinju. It relates how the king in his youth, before he succeeded to the throne, had travelled for years in western countries"

There are three things of interest in these traditions, beyond the suggestion that manioc had spread to the center of the Congo basin in not more than 150 years from the discovery of the New World. The first is that the introduction is associated in the tribal memory with a period of large-scale cultural borrowing from what was thought to be a superior culture. There had been a cultural invasion of the continent carried by the high reputation of the Kingdom of Congo and carrying with it all sorts of new ideas and new products. The second is that manioc was originally used as a vegetable, being prepared in the simplest fashion, and by a method used previously for other foods, especially for plantains. Only later were more complex processing methods introduced. And though manioc had made the big leap from Congo to the capital of Bushongo at an early date, it was another two-and-a-half or three centuries before it was established in some areas not far from the capital. Finally one should note the reason given for introduction of manioc in the eastern Bushongo legend: the crop's resistance to locusts.

Southeast of Bushongo, the Baluba Empire covered most of what is now the Katanga Province of the Belgian Congo. The heart of this empire and the original seat of its power was the territory of a people called the Bena Kalundwe. The Bena Kalundwe are distinguished above all tribes in this region for the extent of their cultivation of manioc, and their name derives from this fact. For Kalundwe is made up of the word for manioc, *lulundu*, plus the diminutive *ka*; the Bena Kalundwe are the "People of Manioc." (20, pp. 231-32).

According to the Bena Kalundwe, they adopted manioc as a major crop toward the end of the 19th Century, as the result of a decision of their chief, Tambo Kanonge. The chief of the Bena Kalundwe was traditionally chosen from one of three noble families, but there had been no orderly law of succession. As a consequence, the death of a chief was apt to be followed by civil war in which each faction tried to force its candidate on the others. The frequent periods of assassination and war caused the Bena Kalundwe to neglect their regular farming activities and serious famines frequently resulted.

In about 1885, Tambo Kanonge persuaded the three great families to agree on an orderly rotation of the chieftainship among them, and thus put an end to the period of instability. Furthermore, in a positive attack on the problems of hungry seasons and of famine, he sent for manioc cuttings to the Balunda¹ living to the southwest and imposed the cultivation of manioc on the entire population.

The Bena Kalundwe say that the people valued manioc very highly when they found that it could be harvested at the end of the dry season and at the beginning of the rains, the season when famine was most apt to threaten. For prior to the introduction of manioc, they had relied primarily on corn, the reserves of which were often exhausted before the new crop was ready. The name of the new crop was therefore on everyone's lips, and it was in this way that they came to be called the Manioc People. (20, pp. 231-32).

¹ According to Torday, the Balunda Empire may have been founded by a son of Bongo Lenge, the Bushongo King who succeeded Shamba Bolongongo and preceded Bom Bosh. (50, p. 170).

If manioc was indeed introduced to the Bena Kalundwe as late as 1885, it must have been adopted generally in a very short time. That such rapid adoption of a new crop is not impossible is demonstrated by the success the British have had in the Western Province of Tanganyika (the easternmost extension of Zone IV, Map 1, across Lake Tanganyika). The Bena Kalundwe, like the Bushongo, attribute the adoption of manioc to the action of one of their great chiefs and like the Bushongo they borrowed it from another African people. But the reason they give for its popularity is different, and essentially implies recognition of another great advantage of the crop, its semi-perennial nature.

East of the Baluba empire, a related people, the Bemba, ruled over a large part of northeastern Northern Rhodesia. (Map II). They had moved into this country from the west, probably early in the 18th Century, and were visited by the Portuguese explorer Pereira in 1796 and by Lacerdo in 1798. (20, pp. 153, 391). Other Portuguese and Arabs visited their capital in the first half of the 19th Century, and it was in their territory that Livingstone died in 1873.

The Bemba grow manioc, and according to their traditions they acquired it from the Bisa, who live just to the west of them. (21, p. 20). But it is a crop of only minor importance, and the Bemba rely primarily on the millets. Manioc is regarded as an inferior food because, although it fills the belly, it is softer than millet and "melts quicker inside." (21, p. 52). Furthermore, preparation of manioc by the soaking method they use entails planning ahead for four or five days, whereas the cereals can be prepared in a few hours. (21, p. 94).

The Bemba pursue an agricultural system that involves the regular clearing of new land from brush. The trees and branches cut from a considerable area are brought together and burned to form a seed bed and to improve fertility. For each acre planted, up to six acres may be cleared. This method of farming requires that there be at all times large areas of free land, and as long as free land exists, it is not an unsatisfactory system.

Cilubi Island in Lake Bangweulu bordering the Bemba country, is occupied by Bisa who formerly grew millet in burnt gardens just as the Bemba do now. But as population grew it became necessary to put all land into cultivation. According to Audrey Richards, reporting conditions as they were in 1933 (21, p. 327):

"The history of particular gardens during the last sixteen years showed that cultivators had been able to use their land nine years running in the first instance, sowing millet with the cassava [manioc] the first two years, then planting a succession of fresh cassava cuttings for three, redigging completely, and repeating the same sequence of millet and cassava in the subsequent four years. The ground was then left fallow for two years and by this time--the twelfth year of occupation-- all attempts to grow millet were apparently abandoned and the people adopted a regular sequence of planting cassava, setting cuttings for three years running and following it with a groundnut crop for the fourth year. After this they allowed the ground to lie fallow for a year, and then restarted the same four-year sequence."

The Bisa on Cilubi Island have given up millet as a staple, substituting manioc for it.

Richards reports seeing a conscious adoption of the Bisa system by a Bemba village in 1933, a year of great locust swarms. She was told by the headman that "... the villagers had decided by common consent to give up their *ifitemene* [shifting cultivation with burning] for the first time in their lives 'because we have used up all the trees and we said "Well! then let us turn into Bisa now"', i.e. live on cassava." (21, p. 328). These reports of the adoption of manioc by one Bemba and one Bisa community confirm some of the information in the preceding accounts, and add something new. The cultivation of manioc was undertaken in imitation of another tribe. It was adopted consciously because it would provide an adequate food supply when the traditional crops would not. And the decision seems to have been made by the group as a whole.

Manioc in West Guinea

The foregoing account of the adoption of manioc by the Bushongo, Baluba, Bemba, and Bisa retraces some of the steps by which the New World crop spread over what is today the region of its greatest importance. It is worthwhile also to study its spread over a region where it was not adopted so readily, and where it is still of much less importance than in the Congo. This is the region of the upper Guinea Coast, and in particular the territories of Nigeria, Dahomey, Togo, and the Gold Coast.

The Portuguese had stations along this coast, at Elmina and on São Tomé, before they reached the mouth of the Congo River. São Tomé was colonized by Portuguese and by Jews expelled from Portugal in the late fifteenth century, and was one of the first sugar-producing islands under European rule. Manioc appears to have been introduced at São Tomé at a fairly early date, and by 1700 it was an important food crop there, in Príncipe, on Fernando Po, and at Owerri (Warri) on the mainland. (22, pp. 399, 401, 409). But nowhere else on the mainland was it a crop of more than casual importance prior to the nineteenth century.

William Bosman, who was chief factor for the Dutch at Elmina at the end of the seventeenth century, has provided us with a detailed account of the food-stuffs of Liberia, the Gold Coast, Dahomey-Togo, and Benin (in Nigeria west of the Niger) as he observed them while trading along the coast. (23). He found the principal foods to be yams and maize, although he gives descriptions of many other foods, including millets, rice, sweet potatoes, beans, and several kinds of groundnuts. It seems almost certain that if manioc had figured at all in the diet he would have mentioned it, but he does not.

John Barbot visited the Guinea coast in 1682 and apparently traveled as far east as the Niger delta (22).¹ He mentions manioc as one of the minor crops grown in Sierra Leone, but does not report it again until he reaches Owerri, in the Niger delta just east of Benin. There he reported finding "... an infinite number of banana trees, as also of magnoc bushes, which they call, Mandi-hoka, in their language; of which they make the Cassabe, or Farinha de Pao, that is in Portuguese, wood-meal, which is the bread they commonly feed on." (22, p. 377).

It is possible only to speculate as to the reasons why the Africans of the northern Guinea coast did not adopt manioc as readily as they did corn and sweet potatoes. The most likely explanation probably lies in the poisonous character of manioc if it is improperly prepared. If the manioc root is handled in just the same way as the yam, which was the staple food for most of the region east of the middle Ivory Coast, it is very apt to contain dangerous amounts of prussic acid. A few unfortunate adventures with a new food plant would be sufficient to discourage its use for years to come.² Added to this is the fact that the Portuguese never succeeded in establishing the same sort of close relations with the natives around the Bight of Benin that they enjoyed in Congo. The West Africans were admirers and imitators of the more advanced political states of the interior, and not nearly as much impressed with the Portuguese as were the people of Congo. There was not, therefore, the sort of intellectual and social climate that made it easy to transmit the more elaborate methods of processing manioc.

¹ Barbot's account was not published until 1732 and draws heavily on Bosman's book which appeared in 1705.

² In recent years, Clarke and Turnock have both asserted that some Nigerians show evidence of hydrocyanic poisoning from eating manioc. (26,27). Clark believes chronic hydrocyanic poisoning may be widespread and that it is probably a cause of various pellagra-like diseases found in tropical Africa. (26, p. 291). There is no doubt that acute poisoning occurs occasionally when the roots are improperly prepared. The best-known early instance of this is reported by Stanley, when, on his mission to rescue Emir Pasha, in 1888, a hundred Zanzibaris died from eating raw or partially cooked manioc. (28, II, pp. 8-10). Bascom, writing in 1951, says that: "Within the memory of informants, cassava was believed by the people of Ife [western Nigeria] to be the cause of an itch or rash known ifon or krokro (crawcraw)." (24, p. 46). An article by Moore (25) suggests that they may have been right.

Later, around the end of the eighteenth century, there was a reintroduction of manioc and of the process for making manioc meal. This product had been made on São Tomé and Príncipe, and possibly in Warri, since 1700 (22, pp. 377, 409), but it was not manufactured elsewhere on the mainland. The second introduction of manioc resulted from a small migration of freed slaves from Brazil to West Africa beginning in about 1780 and continuing for over a century that resulted in close contacts being maintained between Bahia and the Lagos-Dahomey coast (29, 30). The returning Africans formed an important trading class, dealing mostly in slaves, and their prestige and influence in the African societies, especially in Lagos and at the court of Abomey, was high.¹

The "Brazilias," as they are called, brought with them many practices learned in the New World, including the preparation of manioc meal and of tapioca. They were undoubtedly responsible for the present widespread use of manioc meal (gari) in West Africa, as contrasted with its only sporadic occurrence in the Congo basin.

The most famous of all the Brazilias, Francisco Felix da Souza, called "Chacha," who came to Guinea in 1788, is said to have taught the Dahomeans the value of palm oil and also to have shown them how to prepare manioc so that they could eat it without becoming ill. (31). In a vocabulary of the Dahomean language published in 1851, *Feh rin ha* is given as the word for manioc. (32, I, p. 227). And in 1935, the art of making tapioca was said to be still unknown in Nigeria except to a few "Brazilian" women living in Lagos. (33, p. 28).

The use of gari seems to have spread from the Brazilian center to the old yam-growing areas, and since 1900 has spread over large areas inland. With the establishment of law and order under European control there has been great expansion of trade and of internal movement of laborers. In some instances migrants have carried manioc meal with them and have introduced it into new areas. At the same time, increasing population has caused manioc to displace lower-yielding yams, just as it displaced millet in Bisa country.

The growth of cities and of a class of single men working in them also stimulated gari consumption, for it is one of the easiest foods to prepare, being edible when mixed with either hot or cold water, or even when dry. The portability and storability of gari, together with its relatively low cost, have made it an important element in urban food supplies.

Manioc is now most important in areas where yams were formerly the preeminent staple, but where population pressure on the land has lowered soil fertility to the point where yam-growing is no longer profitable. Many farmers in Nigeria and the Gold Coast plant manioc as a speculative crop, at the end of the rotation when the fields are ready to revert to bush. If the price is high when the manioc is mature, it is harvested; if the price is low, it is abandoned. As a consequence there is nearly always a reserve of manioc in the fields that can be harvested if needed.

A native-inspired tapioca and gari industry in Togo has received substantial encouragement from the French and is the source of exports to neighboring territories and to France. In southern Nigeria a sizeable gari industry, using extremely primitive methods, supplies the large cities and ships large quantities of gari to the north where it has been introduced only since World War I.

By 1950, in considerable areas along the coast, the area planted to manioc made up 40 per cent of all land in food crops (Map I), and there is reason to believe that manioc will continue to increase in importance.

The adoption of manioc as a staple food crop in West Africa appears to have been determined by causes more complex than those operating in the Congo

¹ Pierson says: "In fact, so extensive had contact between Bahia and the West Coast of Africa become, early in the eighteenth century, that a visitor at that time referred to Bahia as 'New Guinea . . .', while the natives of Guinea were said to call the outer world Bahia . . ." (51, p. 154).

basin.¹ Present again, however, is manioc's ability to produce when other crops will not. A new element is the importance played by introduction at just the right time of just the right processing method. In the next section something will be said of the extent to which processing methods were transmitted with the plant, and the extent to which new methods were developed.

Manioc Preparation in Africa

Although the manioc plant has been very widely accepted throughout equatorial Africa, the methods used to process it are much more limited than in South America. Manufacture of manioc meal is limited almost entirely to West Africa, starch and tapioca are prepared in only a few localities, cassava bread is rarely made, cassareep is not known at all, and the basketry press is lacking. On the other hand, Africans have developed methods of preparing manioc that seem to be peculiarly their own, and in some instances have so modified the American methods as to change the final product

In central Africa the root is usually put to soak in a streamside pond for three or four days as the first step in its preparation. The soaking serves to eliminate all hydrocyanic acid, but roots that do not contain a harmful amount of the acid are often treated in the same way.² After soaking until soft, the roots may simply be molded into a paste, then wrapped in large leaves and steamed to yield the product called chickwangué. Or roots may be dried in the sun, after which they can be kept for weeks or months. When a meal is to be prepared, the dried roots are pounded into a fine white flour, which can be mixed with water to form the paste for chickwangué, or to make a porridge, or for a dough ball to be eaten with a sauce. Alternatively the flour may be prepared from roots of low prussic-acid content that have been dried in the sun or in the beams above kitchen fires. These two products, chickwangué and manioc flour, are found throughout the Congo basin.

In only a very few localities is the grater used in preparing manioc. When it is used it appears always to be in the preparation of starch. Manioc meal is prepared in Angola near the cities, and by Nigerians resident in the Cameroons, but in most of Central and East Africa it is unknown.

In West Africa manioc is prepared in a variety of forms, of which gari (*farinha da mandioca*) is probably the most popular or, if not, is well on its way to becoming so. The Nigerians prepare also a product called fufu that resembles closely the Brazilian *farinha d'água*. A similar product is made in Angola. Manioc flour is prepared from sun-dried roots, or from roots that have been soaked before drying. In general, however, roots are processed without maceration.

No product in West Africa corresponds exactly with chickwangué, although the "vegetable loaves" of Nigeria, the "fufu" of the Gold Coast, and the dumbol of Liberia are somewhat similar. These dishes are prepared by slicing and boiling the fresh roots, and then pounding them into a smooth thick paste that can be molded into a loaf shape. They are usually eaten without further cooking. This method is also used to prepare yams, plantains, and taro and, like chickwangué, is almost certainly of African origin.

Manioc starch is made near the large towns where it is used primarily in laundering, and tapioca is manufactured in Togo for export.

¹ They may appear more complex because more recent. Memory of the complexity of causes operating in the Congo may have been lost through the sieve of memory.

² It is not at all clear that the Africans understand the essential purpose of soaking. According to De Greef, natives in northeastern Congo thought that the only purpose of maceration was to soften the roots. (34, p. 65).

We can only guess at the reasons why those Africans who learned the use of manioc from Portuguese stations in the Congo took over only the methods for preparing manioc flour. Because of the close relationships between Congolese and Portuguese in the sixteenth century it would not have been difficult for Africans to learn all the Indian skills if they had seen a use for them and if the Portuguese had known them. The most likely explanation would seem to be that the Europeans themselves understood only imperfectly the Indian methods, and that in particular they could not duplicate the Indian basketry press. Perhaps, they themselves used a wooden screw or lever press that would have been difficult for Africans to copy, whereas the basketry press would have been well adapted to their technology.¹ The toasting or parching process, too, although not difficult to learn, was probably unfamiliar to Africans.

The description by Michael Angelo and Denis de Carli of foods eaten in Loanda in 1666-67 could apply either to a pounded or a grated manioc root: "Instead of bread they use the root of Manjoza, as they do at Brazil, and Indian wheat, of which they make little cakes, and other things of paste, which yet are not so good as bread." (16, p. 157). Merolla, in 1682, spoke of manioc's being "bruised as small as rice" and "either eaten raw, or else softened in broth." (17, p. 247). This certainly sounds like manioc meal, especially since he contrasts it with "another sort used instead of bread, made with sodden roots, which is called Gnamm . . . very different from the foregoing, both in form and kind." (17, p. 246). Perhaps the key word in all this is "sodden," and if Africans were already accustomed to preparing yams by soaking, it would be easy to understand how this particular one of all the American methods of preparing manioc was adopted. Softening of fibers and partial disintegration of flesh by fermentation is probably one of the oldest ways of preparing food, and may have been the first approach to cooking (cf. 35, II, p. 627). On the other hand, the correct reading for "sodden roots" is more likely "boiled roots."

In West Africa, the yam country par excellence, the most common way of preparing roots is either by boiling them, or by slicing and drying. For manioc this is not enough if the toxic content is high. Soaking, on the other hand, is almost sure to result in a harmless product.

When West Africans learned how to make manioc meal, they had a way of processing the root that resulted in a safe product. But although they learned all the details of this process, they did not at the same time acquire a press as efficient as the Indian one. Instead of being able to squeeze out the necessary amount of moisture in four or five hours, it was necessary to leave the grated roots under pressure for three or four days. As a result, a certain amount of fermentation and souring took place, and the final product acquired a characteristic flavor. In the course of time the West Africans developed a preference for meal with this sour taste, but, more than that, in each locality the preference might be for a different sourness, depending on variety of manioc and period of fermentation. When, in the 1940's and 1950's, British officials and African entrepreneurs attempted to manufacture manioc meal mechanically, they found themselves thwarted by the difficulty of satisfying a wide range of flavor preferences.² In Brazil, however, where only very slight fermentation could occur because of the short time in the press, mechanization of the manufacture of meal was achieved years ago.

It is surprising that cassava bread is not more important in West Africa. It could provide a bread substitute of sorts, and would appear to be a useful product for urban workers and travelers. The Kudeti Book of Yoruba Cookery does contain a recipe for small cassava cakes made with sliced coconut, (37, p. 45), and according to Dalziel, the Yoruba word for "a sort of cassava bread" is

¹Merolla, in 1682 spoke of Brazilians pressing the juice out of the stalks and leaves by a sort of handmill and using the juice for drink or broth. The same custom, he said, was used in Angola. (17, p. 202).

²The parallel with homemade bread and bakery bread in the United States is too striking to pass up. But so far no one has advertised "Gari just like Mother used to make."

beju. (38, p. 153). But cassava cakes certainly are not an important product.

A word should also be said about the use of manioc leaves. In America they were used by the Indians only very occasionally, but in almost all parts of Africa where manioc is grown leaves are a significant part of the diet, either cooked as a spinach, or dried and added to a sauce. The nutritive value of the leaves has been mentioned, and it is somewhat surprising, therefore, to find the statement by Dalziel, the great authority on West African plants, that their "use is to be deprecated, and in some African communities it is regarded as indicating a primitive economic condition." (38, p. 154). He does not say why.

Leaves of all sorts are eaten very widely by Africans, and Irvine says that in West Africa leaves of twenty-five different plants are so used. (39, pp. 249-51). He does not specifically mention manioc leaves, but the frequency with which their consumption is reported by other authors suggests their importance. And Porteres, in an article describing leaves and shoots used in the mountain-forest zone of French West Africa, gives manioc leaves first place, and even reports one variety that is raised primarily for its leaves. (36, pp. 71-72). Whether or not the eating of leaves is a conscious response to protein deficiency is probably impossible to determine; the statement that "we get meat from the leaves," quoted above, suggests that it may be.

Conclusion

The spread of manioc through Africa before the continent came under European political control clearly demonstrates that effective contact between European and African cultures long antedates the period of European political control. It also provides evidence directly contrary to notions of the African's arch-conservativeness, of his lack of inventiveness, and of his economic irrationality.

The culture of manioc and of many other exotic crops from the Old and New Worlds alike was undertaken by Africans of their own free will and most often without visual contact with Americans, Europeans, or Asians. Nor did its spread depend on the movement of African peoples, although tribal and individual migrations often played a part. In many instances manioc, and other crops, spread from tribe to tribe by simple imitation or borrowing.

It was not necessary for alien governors to order the Africans to adopt new cultural elements that were to their own interest. The Africans grew manioc for sound economic reasons: (1) its resistance to drought and to insect damage, (2) its semi-perennial character; and (3) its productivity on poor soils. Colonial administrators consider these good reasons for encouraging manioc's cultivation today; free Africans considered them to be good reasons in the past.¹

To adopt a new food plant, however, is not to adopt the complex culture surrounding it. The failure of Africans to acquire all elements of the American manioc complex may be attributed to imperfect knowledge on the part of the first persons to introduce it, to the inappropriateness of some elements of the culture, and to historical accident. On the other hand, and equally important, Africans invented new uses of the plant, either *de novo* or by adaptation from uses of other food plants. Chickwangué in the Congo, fufu in the Gold Coast, and the vegetable loaves of Nigeria are purely African ways of preparing manioc. The great prominence of manioc leaves in the food culture is also an African innovation.

Examination of the transmission of one cultural trait does not permit the

Dr. Hohenthal argues that There is a vast difference between an independent people (as Africans were before European exploitation) responding favorably to diffusion, and the apathetic chattels of alien colonial powers-that-be, as is the present case."

development of general theories; in this instance, however, it provides a strong counter-example to widely held beliefs as to the willingness and ability of Africans to put new ideas to work.

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A STUDY OF MANAGERIAL IDEOLOGIES*

This paper contains some observations based on a recently completed study of managerial ideologies in the course of industrialization. The study in question deals with the ideas which employers and their spokesmen have developed in order to justify the exercise of authority over the workers and in order to enhance the latter's obedience and efficiency. All ideas which relate to these two issues are called entrepreneurial ideologies in the early phase of industrialization, and managerial ideologies when economic enterprises are fully developed. These ideologies have been examined in four countries: in England during the Industrial Revolution (approximately from the 1780's to the 1850's), in Tsarist Russia from the reign of Peter the Great (1685-1725) to the revolution of 1905, in the United States from about 1900 to the present, and in East Germany in 1953-54. Thus, the theme of the study may be suggested by a short phrase: managerial ideologies--East and West, then and now.

In my comments on this study I want to consider two aspects: what is the intellectual context of a broadly comparative study of managerial ideologies and economic development? what are some of the conclusions from the study of entrepreneurial ideologies in England and Russia during their early phases of industrialization?

I. The Intellectual Context

From the controversy between Schmoller and Menger in the 1880's to the 1954 Bulletin No. 64 of the SSRC, entitled The Social Sciences and Historical Study, a voluminous literature has been written, concerned with the feasibility of relating theories of the several social sciences to historical materials. Dogmatic assertions and well-meant admonitions abound, whether these affirm or deny the relevance of theory to history. All seem agreed --though clearly for divergent reasons--that the relations of the social sciences to history are not what they should be, but few efforts are made to do something about it.

The matter is not merely of methodological interest. The Cold War has placed the industrialization of underdeveloped areas on the agenda of the social sciences. And the scholarly concern with that issue poses the problem whether and in what respects the process of industrialization in the developed countries provides lessons for the future industrialization of the economically underdeveloped areas.¹ This problem can be addressed if analytical tools are developed for an interpretation of the process of industrialization and if further headway is made with regard to the comparison of like processes in different historical contexts.

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¹The relevance of European industrialization in this respect is discussed by Alexander Gerschenkron, "Economic Backwardness in Historical Perspective," in Bert F. Hoselitz, ed., The Progress of Underdeveloped Areas (Chicago: University of Chicago Press, 1952), pp. 3-29.

An outstanding example of such an analysis is the scholarly literature initiated by Max Weber's work on the economic ethic of world religions. It will be recalled that Weber's interest was twofold: to explain the unique development of capitalism in Western civilization in one of its aspects and to show how the close fit between social structure and religious orientation had effectively impeded similar developments in other civilizations. The analysis of cultural peculiarities of capitalist civilization in the West was, thus, broadened by systematic contrasts and comparisons among other civilizations in order to elucidate the relation between the prevailing religious doctrines and the ethics of economic conduct. The intellectual perspectives provided by Weber's study are still of great interest today.

Weber's interest in this approach arose from the observation that farm-laborers in East Germany preferred the freedom of the day-laborer to the subservience of the worker on annual contract, even where this choice diminished their total earnings. This preference seemed to point to the importance of culturally conditioned values in economic life. Weber also noted that among prominent industrial leaders in the Rhineland, Protestants predominated over Catholics. What was the nature of this contrast at the time of its origin, when religious beliefs were intense and affected the everyday life of the people? From these inquiries the thesis emerged that the answers of preachers to questions of conscience posed by members of their congregations reflected the more or less acute anxiety to which certain doctrines of Calvinism gave rise. And this anxiety was relieved under the combined pressure of doctrine and circumstance by frugal living, intense work-effort and a thorough discipline in all aspects of daily life, the innerworldly asceticism of the early entrepreneurs.

I am not here concerned with this thesis as a substantive issue, for today the same problem is likely to suggest lines of inquiry which differ markedly from those Weber initiated. In the interval between his essay of 1904 and 1956 we have witnessed the successful industrialization of Japan and of Russia. In these countries the development of technical and economic rationality has been the product of collective organization and collective sanctions. It has not been the consequence of efforts to relieve anxieties engendered by a demanding conscience and an inscrutable God. Moreover, even for the West, Weber's thesis applied principally to the pioneers of capitalism, not to the eventual development of discipline and also of persuasion among the masses of the people. Religious ideas certainly played a part in creating the self-discipline, the rational style of life among the early entrepreneurs. But even in England it was, broadly speaking, the secularization of these ideas which helped to create the discipline and the persuasion of the masses. The term "secularization" may not entirely fit the parallel process in Russia, though it may be suggested that the religious absolutism of Tsarist autocracy was transformed into the secular absolutism of a Communist dictatorship. Obviously, it was the latter which effected the discipline and persuasion of the masses. And in Japan the discipline of the masses may perhaps be attributed to the political manipulation of a religiously sanctioned theory of obligation, which penetrated downwards from the ruling groups, and which effectively imposed on all people a deferential self-discipline with regard to all superior ranks in the society.

However diverse their nature, these processes have involved forms of discipline which differ significantly from those which Weber considered. He had been concerned with the distinctive human type which had become prominent through the development of Western capitalism. The day-to-day sanctions of the Protestant sects inculcated among their members a self-disciplined rationality whose peculiar fitness for the promotion of capitalist enterprises Weber sought to analyze. The religious systems of other civilizations had given rise to different types of deliberateness, for example the Confucian emphasis upon detachment and orderly expectations in the relations among relatives. Thus, each of the great religious systems encouraged a distinctive ordering of man's daily life. Weber's analysis was concerned with examining which ends of personal and social living were served by the several doctrines of the great world religions. Clearly, this was a very special emphasis and it has not always been fully understood. It was due to Weber's interest in showing the relatively independent influence of ideas upon conduct; it did not constitute an attempt to explain the origin and expansion of the industrial system.

The contemporary interest in economic development is very different from Weber's study of the "human type" peculiar to Western capitalism. The contrast will be apparent when we ask how work-discipline may develop by methods other than the religious inculcation of ethical demands. This question is a useful guide to research in this field, even though at present we are hardly in a position to answer it on a comparative basis.¹ In the study under review I have been concerned with the managerial ideologies which have defined the discipline and coercion of the masses in the process of industrialization. These predominantly secular ideologies should not be regarded as a merely verbal accompaniment of coercion; rather they have tended to persuade, not only those whose interests they served, but also the masses of the people for whom they constitute the "ruling ideas of the ruling class." (Marx).

The creation of a non-agricultural work-force is a process which may be studied comparatively if the evidence is examined in terms of certain elementary abstractions. These abstractions were chosen so as to point to the authority-relationship between employers and workers as the proper focus for an analysis of the mass-discipline and -persuasion which are necessary conditions of industrialization. I have used the term "industrialization" to refer to the process by which large numbers of workers since the 18th century have been concentrated in single enterprises and have become subject to the directing and coordinating activities of entrepreneurs and managers. By "large number" I refer to any number of workers in excess of that which still permits face-to-face relationships between employers and workers. Within this general context my object has been to analyze one recurrent aspect of industrial societies. All economic enterprises have in common a basic social relation between the employers who exercise authority and the workers who obey. And all ideologies of management have in common the effort to interpret the exercise of authority in a favorable light. At this most general level it is largely a matter of finding arguments in support of two related contentions. One of these refers to the position of those in authority who are alternately shown not to rule at all, or to do so only in the interests of large numbers. The other refers to the position of the many who obey orders, and who are alternately shown to obey only when they consent to do so, or because such obedience provides them with the greatest opportunities of advancement. Apparently, such ideologies interpret the facts of authority and obedience so as to neutralize or eliminate the conflict between the few and the many in the interest of a more effective exercise of authority. To do this, the exercise of authority is either denied altogether on the ground that the few merely order what the many want; or it is justified with the assertion that the few have qualities of excellence which enable them to realize the interests of the many. This is the common theme which makes ideologies of management comparable despite the different patterns of industrialization and despite the variety of specific interpretations.

I should like to comment on these "truisms" in two respects before turning to a discussion of some of the findings in my study. It is true that a few command and many obey wherever economic enterprises are set up, and that the few will not be satisfied to command without a higher justification, while the many will be sufficiently uncooperative to provoke such justifications. But there are two sides to this "truism" and accordingly I have tried to distinguish between an early and a mature phase of industrialization. In the early phase the creation of an industrial work-force implies for the worker a more or less drastic separation from the traditional setting of his previous economic activities and his subjection to the authority of an employer will involve work-conditions requiring disciplines which contrast sharply with the work-disciplines of the peasant or craftsman. For the employers the early phase typically involves a situation in which the profits of industrialization accrue to them, but their risks and their self-imposed demands are also great. Under these conditions the burdens of rapid change fall upon the workers, while the employers seek to justify their exercise of authority over the workers. But at this time the "few" are more concerned with winning recognition for their

¹For a survey of what is known see Wilbert Moore, *Industrialization and Labor* (Ithaca: Cornell University Press, 1951), Part I.

activities from the public at large than with labor-management and its problems. Thus, the separation of the workers from the traditional setting of their economic activities and the justification of industrialization to the public at large typically belong to the initial phase.

In the mature phase of industrialization the many have more or less accommodated themselves to factory discipline, but they tend to withdraw effort and efficiency because they are dissatisfied with their share of material and psychic income in the society. Planned and impersonal methods of managing the work-force also belong to this more developed phase of the industrial society. The "few" have won recognition from the society at large and the management of large-scale organizations including the efforts to ensure the efficiency of the work-force have become of major concern. Labor-management under these conditions is no longer divorced from "public relations" and any new challenge to the position of employers and managers will tend to be met by appeals which justify the managerial as well as the other practices of business leaders.

Accordingly, the study was divided between these two phases of industrialization and hence between the earlier entrepreneurial and the later managerial ideologies. I should emphasize, however, that many of the most difficult and most interesting problems arise from the fact that these two phases tend to overlap in the countries undergoing industrialization in the recent past or today.

A second point should be noted also. The "truism" that the few will persist in justifying their authority, while the many will tend to "withdraw their efficiency" presupposes that frictions between managers and workers are endemic in large-scale economic enterprises. Such frictions may assume many different forms, and the managerial practices and ideologies which are designed to cope with them, will vary likewise. My study examines these frictions and their managerial resolution during the early and mature phases of industrialization, and I have considered both in terms of the historical legacies of Anglo-American and of Russian civilization. But it is clear that differences between cultures and the particularity of historical events permit systematic comparisons and contrasts only in so far as the assumption is correct that frictions between managers and workers in large-scale economic enterprises are universal.¹

II. Some Conclusions

I shall describe two sets of conclusions from my study the first relating to the early, the second to the more mature phase of industrialization. However, this very tentative distinction will be modified by the conclusions themselves.

A.

Industrialization in its early phase poses a very general problem. It is accompanied by the creation of a non-agricultural work force which is usually forced to bear the consequences of great social and economic dislocations. These dislocations terminate the traditional subordination of the "lower classes" in the pre-industrial society. Though this development varies considerably with the relative speed and the social setting of industrialization, its result is that the "lower classes" are deprived of their recognized, if subordinate, place in society. A major problem facing all societies undergoing industrialization is the civic reintegration of the newly created, industrial work-force. For industrialization brings with it the education of the masses which has very frequently resulted in claims to the social and political recognition of workers as citizens. Hence, the early phase of industrialization tends to be a period of transition from a society in which the inequality of classes is relatively stable, to a condition of society in which the status of different classes and the relations among them have become highly uncertain. In discussing the relations between masters and servants Alexis de Tocqueville described this condition of society with great insight over

¹In the book I have attempted to state my reasons for this assumption, but I can only mention it here.

a century ago.

"What shall I say of those sad and troubled times . . . when democracy, after having been introduced into the state of society, still struggles with difficulty against the prejudices and manners of the country? The laws, and partially public opinion, already declare that no natural or permanent inferiority exists between the servant and the master. But this new belief has not yet reached the innermost convictions of the latter, or rather his heart rejects it

"Then it is that the dwelling of every citizen offers a spectacle somewhat analogous to the gloomy aspect of political society. A secret and internal warfare is going on there between powers ever rivals and suspicious of one another: the master is ill-natured and weak, the servant ill-natured and intractable; the one constantly attempts to evade by unfair restrictions his obligation to protect and to remunerate, the other his obligation to obey. The reins of domestic government dangle between them, to be snatched at by one or the other. The lines that divide authority from oppression, liberty from license, and right from might are to their eyes so jumbled together and confused that no one knows exactly what he is or what he may be or what he ought to be. Such a condition is not democracy, but revolution."¹

In an emerging industrial society this problem confronts the ruling groups with typical alternatives. One frequently recurrent response is an outright opposition to industrialization and the attempt to retain or restore the traditional relations between the classes, if not in practice then at least in theory. Equally recurrent is the approach of those who seek to advance industrialization, who utilize the traditional subordination of workers for their own ends, but who reject the traditional obligations of the ruling class. The comparison between England and Russia during the early phase of industrialization shows that these entrepreneurial ideologies may be expected to vary with the social structure and the historical legacies of the society in question. In England the traditional subordination of the people was disrupted by rapid industrialization. At the level of ideology the rising entrepreneurial class rejected the obligation of the rich to protect the poor and maintained that the latter were solely responsible for the poverty from which they suffered. Initially, this ideological rejection of the newly-recruited industrial work force was counter-balanced by the continued strength of traditional views: aristocratic spokesmen contended for the right of the poor to protection by the rich, while workers used this image of traditional class-relations as a weapon in their attacks upon the employers. Eventually the English entrepreneurs found a new and positive formula which differed from their earlier views in being compatible with the civic position of the working class as well as with their own interests. This formula consisted in a basically equalitarian appeal which invited the workers to emulate the qualities of their employers and thus attain success for themselves. In Russia the traditional subordination of the "lower classes" was retained in theory and practice long after legal and economic changes had terminated the conditions under which that subordination had been successfully defended in the past. The common dependence of all social groups on the supremacy of the Tsar meant that the relations among them remained subordinate to the government at a time when the ideological and institutional emancipation of workers and peasants, as well as of employers, was in progress. Landowners and employers insisted as much as the government officials upon the continued subordination of the "lower classes." And in the absence of any attempts to accord workers and peasants a civic position appropriate to their changed, even though subordinate, role in an emerging industrial society, the masses finally revolted, not against their oppressors as they had in the past, but against the person of the Tsar, the symbol of the social order which they had previously upheld.

¹ Alexis de Tocqueville, *Democracy in America* (New York: Vintage Books, 1954), II, pp. 194-195.

In their different ways the English and the Russian development appear to illustrate the same generic problem which arises from the break with the traditional subordination of the people as a result of industrialization. On what terms will a society undergoing industrialization solve the problem of incorporating its newly recruited, industrial work-force within the economic and political community of the nation? Merely to insist on the continued subordination of the "lower classes" when their traditional way of life has been changed profoundly, is fraught with danger to a society as the Russian case illustrates. But to accentuate this change by holding the workers responsible for the deprivations from which they suffer is also hazardous, unless as in the English case this ostracism of the workers is counteracted vigorously by other forces within the society. Russia and England may be thought of as exemplifications of the extreme alternatives. Other societies undergoing industrialization have tended toward intermediate solutions, in which the traditional subordination of peasants and workers was modified without being abandoned, and the demand for the self-dependence of the new industrial work-force was mitigated by governmental measures designed to cushion the impact of rapid economic change.

Industrialization thus tends to create a revolutionary potential as a consequence of the problems engendered in the early phase of its development. The resolution of these problems may take a long period of time. Partial resolutions of the problem only lead to partial dissipations of the revolutionary potential as in Germany and France. In such cases the unresolved problems of the early phase linger on long after economic enterprises have been well-developed. The revolutionary potential of the proletariat will disappear, on the other hand, where this work-force is more or less rapidly reincorporated in the national community. These considerations have far-reaching implications for our understanding of the social and political history of capitalism.

The analysis of entrepreneurial ideologies has suggested that these ideologies are an important element in a society's capacity to reincorporate a newly-created, industrial work-force. Societies differ in this capacity to accord civic recognition to an "internal proletariat" (Toynbee), and these differences are an outgrowth of each country's historical legacy which manifests itself in the developing relations among the social classes and the government. The revolutionary dangers of industrial civilization materialize, when the various dominant groups are unable or unwilling to compromise. This inflexibility and hence the suppression of social unrest are actually greatest at the inception of industrialization. But the resulting conditions are highly unstable and may have cumulative, long-run repercussions. The revolutionary threat to an emerging industrial society involves the workers' quest for civic recognition in that society; it involves a struggle between classes over rights of which the workers claim to have been deprived unjustly (though in fact they never possessed them previously), and which they seek to gain through a political struggle for a more equitable distribution within capitalist society.

This interpretation is clearly at variance with the Marxian analysis. Marx had predicted that the revolutionary threat to capitalist society would increase as capitalism advanced. I have suggested that in Europe this threat grew out of conflicts during the incipient phase of industrialization.¹ Marx believed that the political awakening and the increasing radicalization of the workers were a response to the economic crises and the cumulative deprivations of advancing industrialization, which would eventually lead to an overthrow of the capitalist system. Yet, there is evidence that political radicalism may decrease with a rapidly developing capitalist economy, while it appears to be intensified where the economic development is retarded and workers are denied the rights of equal citizenship. Finally, Marx predicted that as capitalism advanced the capitalist ruling class would become increasingly fearful for its supremacy, reluctant to make concessions to the workers, and unwilling to advance indus-

¹Cf. the discussion by David Mitran, *Marx Against the Peasants* (Chapel Hill: University of North Carolina Press, 1951), 205-06 and *passim*, who emphasizes the paradox that Communism has been successful in predominantly agrarian rather than in the highly industrialized countries.

try technologically. But the evidence considered in this study would suggest that the willingness of entrepreneurial classes to compromise may increase along with the capitalist development, while the rejection of compromise or the most reluctant yielding to pressure result from historical legacies which antedate industrialization though they have a profound effect upon the relations among social classes in the course of industrialization.

B.

In the early phases of English industrialization the entrepreneurial concern with the workers was primarily not managerial, if by "managerial" we mean the deliberate use of means to organize and control the work-force of an enterprise. It is probable that the early entrepreneurs could ignore these problems as long as managerial responsibility as well as the risks of managerial failure fell to the lot of subcontractors. However, the problems of labor-management came to the fore, wherever the organization of production involved the concentration of all work operations within the enterprise and depended to some extent upon an internalized ethic of work performance on the part of unskilled as well as of skilled workers. Under the conditions of factory production, such an ethic involves a number of variables. Workers must be willing to do the work assigned with a degree of steady intensity. They must have a positive interest in accuracy and exercise reasonable care in the treatment of tools and machinery. And they must be willing to comply with general rules as well as with specific orders in a manner which strikes some reasonable balance between the extremes of blind obedience and capricious unpredictability. And it is this last qualification which brings the general attributes of an ethic of work performance within the framework of an industrial organization. For under conditions of factory production the intensity of work, its accuracy and the careful treatment of tools and machinery cannot remain the attributes of an individual's performance. Rather, these qualities of work must be coordinated with the production schedule, and that coordination depends to some extent on the good judgment of each worker in his every act of complying with rules and orders. It is probable that in England this ethic of work performance developed among the masses of workers out of the combined legacies of craftsmanship, the Puritan ethic and the rising ideology of individual striving and success. But these legacies had become effective among industrial workers (and to a certain extent the workers had become adapted to the disciplines of factory work) prior to the growth of modern, large-scale industry. It is easiest to appreciate the significance of timing in this respect by considering the contrast with the development in Tsarist and Soviet Russia.

The doctrines of autocratic rule assumed the total depravity of workers and serfs. An ethic of work performance was not expected of the laboring masses; it was assumed, rather, that they owed the utmost exertions to their masters and that they needed to be punished severely if they failed in their obligations. Autocratic rule relied upon the omnipresence of fear and coercion to make workers and serfs act as they ought to act, and its ideological appeals exclusively stressed the sacred duty of submission.

" . . . in their instruction to the people [the clergy] should remind them how sacred is the duty of submitting to the authorities, and above all to the Highest authority; how necessary is a trusting and united respect for the government, which of course knows better than private persons what is the good of all, and cannot but wish the well-being of its subjects; and how dangerous is credulous acceptance of injudicious or ill-intentioned advice, from which proceed folly and disorders" ¹

The distinctive feature of this and many similar appeals was the emphasis upon submission to the government as the principal rule of conduct. Subordination to

¹ Statement of the Metropolitan Filaret of Moscow in 1839, advising the police on how the peasants could be quieted, cited in John S. Curtiss, Church and State in Russia (New York: Columbia University Press, 1940), p. 30.

the master was but a token of the worker's submission to the Highest authority. And this political interpretation of obedience precluded ideological appeals concerned with the inculcation of work habits, just as the rank-consciousness of Russian employers found expression in the expectation that coercion and fear rather than conscience would prompt the worker to exert himself.

It is instructive to consider the comparison with England. There also, the assumption was widespread in the late 18th and early 19th centuries, that the laboring poor were depraved. Complete submission to the higher classes and to the government was demanded without equivocation. A real concern with the attitudes of workers only arose (as it did in Russia) when the people showed signs of rebelliousness. Yet, these similarities were superficial. In England, the depravity of the poor was rarely mentioned without reference to the good qualities which every self-respecting man can develop, and the demands for submission were couched in terms which made submission synonymous with ideal qualities of work and conduct.¹ Just as there was little distinction between the ruling classes and the government, so there was also little distinction between the work performance expected of the ideal laborer and the submission to the authority of government, which was expected of the laborer as a citizen. In Russia, these distinctions were fundamental. The employers failed to appeal to the conscience or self-esteem of the workers, because the reliance on fear and coercion effectively precluded the demand for an internalized ethic of work performance. The demand for submission, on the other hand, was only related to civil obedience and religious orthodoxy, but not to any other aspect of personal conduct. It may be suggested that the employers acted as they did because their own self-esteem depended upon an exercise of authority which was patterned after that of the landowners and the Tsar. And the officials of the Tsarist government were concerned with the conduct of the people only insofar as the maintenance of public order made that concern necessary. To have gone beyond the suppression of disturbances would have been outside the established routine of officials, for whom an unconditional submission to the Tsar's supreme power was an unquestioned axiom.

Under these circumstances, an ethic of work performance did not become a managerial problem in Russia until after the revolution of 1917 and hence until industrialization had become synonymous with the development of large-scale enterprises. It is instructive to read Lenin's reflections on this problem, written in 1918.

"The Russian is a bad worker compared with workers of the advanced countries. Nor could it be otherwise under the Tsarist regime and in view of the tenacity of the remnants of serfdom. The task that the soviet government must set the people in all its scope is--learn to work. The Taylor system, the last word of capitalism in this respect, like all capitalist progress, is a combination of subtle brutality of bourgeois exploitation and a number of its greatest scientific achievements in the field of analyzing mechanical motions during work, the elimination of superfluous and awkward motions, the working out of correct methods of work, the introduction of the best systems of accounting and control, etc. The Soviet Republic must at all costs adopt all that is valuable in the achievements of science and technology in this field. The possibility of building socialism will be determined precisely by our success in combining the Soviet government and the Soviet organization of administration with the modern achievements of capitalism."²

¹ The polemical literature initiated by Marx always reserved its most caustic invectives for the hypocrisy of employers, who admonished starving workers to work hard, live frugally and be content with their lot. Yet the contrast with Russia suggests that this moralizing approach differed significantly from a demand for submission as such. The selfish interests which no doubt dominated both approaches, cannot explain the difference between them, nor is the repeated "discovery" of these interests very illuminating in itself.

² Lenin, *Selected Works*, op. cit., VII, pp. 332-33. It may be added that Lenin inveighed against the Left-Wing Childishness and Petty-Bourgeois Mentality, (in *Ibid.*, pp. 351-78) of those who feared that labor-discipline would restore capitalism, alienate the workers, diminish their initiative and thereby jeopardize productivity.

education of the people was the result of unplanned growth which "scientific management" could take for granted. In Russia the development of labor discipline and of "scientific management" were attempted at the same time under the leadership of the dictatorial party and subject to its supervision.

This coincidence between industrialization and the bureaucratization of economic enterprises, between the inculcation of an ethic of work-performance and the introduction of complex technology and administrative organization has occurred under dictatorial rule. The Party fears the existence of common understandings by political means. This has meant specifically that the decision-making authority of the managers is not only controlled by the planning agencies from above, but must be in line with the "experience of the masses," as this "experience" is represented and manipulated by the Party. The workers are not only subordinated to the managers, but are also called upon--under the guidance of the Party, of course--to criticize and help correct the administrative and technical work of management. Thus, the social differences between managers and workers are disguised symbolically by the subordination of superiors and the super-ordination of subordinates, a disguise made possible by the total subordination of all ranks in society to the political controls of the Party. Under this system differences of power, of status and of rewards are at least as great as in any "class society," but conflicts over the distribution of rewards are suppressed and class-differences are denied by making the work-performance of each individual or group both a test of loyalty and a testimonial to the Party.

Under the conditions of Western civilization the distribution of rewards is in dispute and conflicts of interest are intense, but the differences of status and power between managers and workers are by and large accepted as legitimate. The belief is more or less accepted by management and labor that the authority of managers over their subordinates not only reflects the imperatives of industrial organization, but also the existence of class-differences. For when managers make their appeals for cooperation they identify themselves automatically as persons in authority who formulate, and speak for, the interests of the organization which they lead. And yet there also remains a vague residue of understanding between managers and workers as members of the same community. Managers appeal to the good faith of their subordinates in order to enlist their cooperation. Workers and their representatives continue to appeal for the acceptance of their position by the public and by management. Presumably, these appeals continue to be made because both sides believe that they have a chance to be heard some of the time, because they appeal to their own group and express its feelings rather than change the ideas and feelings of the other group, and also because both sides more or less accept a certain level of frustration. And this acceptance of differences in belief and interest together with the continued appeal by each side for cooperation and understanding suggests that for all the ambiguity of ideas and the ambivalence of feelings there exists a common universe of discourse.

This common universe of discourse can be understood more clearly if one examines entrepreneurial and managerial ideologies in Anglo-Saxon civilization over a two-hundred year period. In 18th century England views concerning the position of the poor--the "swinish multitude" as Burke called them--were much the same as those I have described for Tsarist Russia, with the significant exception that the "benevolent protection" of the people was regarded as an obligation of the aristocracy, not of the king. Beginning with the writings of Adam Smith, Edmund Burke and T. R. Malthus the idea began to spread that the people should be self-dependent. In the past too much attention has been paid to the hypocrisy implicit in a call for self-dependence which coincided with the massive distress of the industrial revolution. For the recently uprooted peasants of Methodist persuasion this appeal had considerable force, nevertheless, and in the 1830's it was buttressed further by the appeals of free-trade spokesmen for the political support of the working class. By the 1850's this development had culminated in the idea that the workers should emulate the human qualities of their employers rather than rely upon their superiority and protection.

In the United States this basically equalitarian idea was given harsher overtones in the glorification of the struggle for survival. But in retrospect that may well have been an episode which was as short as the "Gilded Age." For while the open-shop campaign asserted the employers' sovereignty within the plant,

scientific management was already prescribing what to do with that sovereignty with the more or less tacit suggestion that science was a substitute for managerial discretion. During the 1920's industrial psychology advanced this theme by elaborating techniques of testing and personnel management which were applied to the workers, while the old praise of virtue and success continued unabated with regard to employers and managers. Yet, this invidious distinction may have been shortlived also if one takes the "human relations" movement since the 1930's to mean that managers as well as workers act in response to group-pressures and emotional involvement. Such equalitarian undertones of the managerial "images of man" cannot hide the existing differences of status and reward. But these "images" suggest that the equalitarian traditions of the West have been brought in line with the organizational changes of economic enterprises which put a premium on the "bureaucratic arts." Even at the level of managerial ideologies they contrast sharply with a tradition which maximizes the differences among men not merely by differential rewards, but also by a rigid, if frequently shifting, political orthodoxy.

III. Concluding Remarks

At the end of his essay on the Protestant Ethic Max Weber observed that the dissolution of Puritan asceticism into the pure utilitarianism of capitalist entrepreneurs still needed to be investigated. Works like those of Leslie Stephen and Elie Halevy are major contributions in this respect. But it may be suggested that this line of inquiry tends to isolate the ideas of the rising middle classes from the social context in which they are developed. An emphasis on that context tends to direct attention to those "ruling ideas of the ruling class" which are concerned with the related images of "the entrepreneur" and "the worker" and hence with the place of both in an emerging industrial society. The study here under review has attempted to show that in England the entrepreneurial ideologies of the early 19th century came to make a positive moral appeal to the worker in lieu of the earlier identification of poverty with a fall from Divine grace. Though only one of many factors, this appeal was of significance for the civic reintegration of the rising working class and hence for the dissipation of the revolutionary potential of early industrialization. The contrast with Russia tends to emphasize the importance of such appeals on the part of the ruling class. And this contrast also suggests that further comparative studies will enhance our understanding of the relations between social classes and the revolutionary potential of societies undergoing industrialization.

The successful industrialization of a country presupposes an ethic of work performance. In his essay Weber had investigated the religious ideas in which the work-ethic of the rising middle classes of Western Europe had originated. Today, the industrialization of countries like Russia and Japan suggests that this requisite work-ethic may originate in different ways, above all by nationalist appeals implemented through political coercion.¹ And this difference in the origin of the requisite work-ethic is also related to an important difference in timing. To be successful today industrialization cannot depend upon a prolonged education of the masses before introducing modern large-scale enterprises, as the countries of Western Europe could. But to do so simultaneously means that no such interval is possible between the persuasion of the elite and the persuasion of the masses as occurred in England between the agitation of the Puritan Divines in the late 16th and early 17th centuries and the education of the masses from the 1760's to the 1830's. A comparison of managerial ideologies in England and Russia suggests, rather, that successful industrialization today may depend upon the simultaneous development of large-scale industry and of a work-ethic among the masses. In this respect Russia may be likened to Germany and Japan. The development of all three countries poses the question whether today a work-ethic among the masses can be created without the political accentuation and manipulation of status differences in the name of nationalist goals.

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¹Because of his concentration on the differences between Western European and Asiatic civilizations, Weber even slighted the case of Germany. Although he analyzed the contrast between the Lutheran and the Calvinist traditions, in the 16th and 17th centuries, he did not take up the interesting problem of how the emotionalism and submissiveness of Lutheranism was transformed in the 19th century into a quasi-military activism which also proved to be an effective work-ethic for industrialization.

SOME PROBLEMS OF COMMUNICATION IN RURAL COMMUNITY DEVELOPMENT*

I.

The rural community development program in India, as conceived and partly implemented by the State under the first Five Year Plan, is essentially a democratic movement of village self-help. The basic objective of the movement, as viewed and expressed by the planners, is to create in the Indian masses a burning desire for change, which, through progressive adaptation of modern techniques, would lead to their achieving higher standards of life. For this reason the program emphasizes education more than service. It is realized that the problem is not simply one of village people adopting modern ideas and techniques offered to them by the extension agencies of the government; it is also a problem of adapting these ideas and techniques to suit the culture and values of the people and of developing acceptable and effective channels of communication. Recognizing this need the Plan has laid considerable stress on offering the program to the people in their own language and symbols. Viewed in terms of its ultimate aims, the movement is a gigantic educational experiment aimed at creating a more positive and forward looking view of life in village India, and thereby at achieving a socio-economic transformation of the village scene. The successful implementation of the program in all its varied aspects consequently involves a series of problems in the area of communication.

In this study an attempt will be made to examine some of these problems in their cultural context, with particular reference to one Community Development Project in Uttar Pradesh, India.¹

II.

In the blueprints outlining the Community Development Projects and the National Extension Service some thought has been given to the question of developing effective techniques of mass contact and of evolving suitable media for communicating the development program--its ideology and methods--to the village people. In the extension training of the multi-purpose Village Level Workers and orientation courses of higher development officials special attention was given to these problems. An effort was made to change the traditional,--the bureaucratic and impersonal--outlook and psychology of the officials by training them to approach the people with sympathy and understanding. In order that the educational goals of the program may not be defeated, the service program was to be implemented through carefully considered steps that were calculated to secure understanding acceptance of the proffered items. The methods of communicating the program to the villager, recommended in the development literature and emphasized in the training of the officials, can be classified under three main categories:

1. Contact
2. Demonstration
3. People's participation

The extension agents of the Projects were to contact individual persons

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¹There are 153 villages in this Community Development Block. At the time of the inauguration of the Project the population of this area was 78,337.

and families, as well as recognizable groups in the village and all the people of the village collectively. For certain items of the development program, such as the acceptance of a new agricultural practice or the joining of an agricultural cooperative, approaching an individual and his family was regarded as the best method. For some other items on the Project schedule that needed group action, such as making sanitary repairs to a well or the formation of a cooperative society of weavers, it was necessary to approach a group. In the case of the repairs to a well all the people living in the territorial sub-division of the village where this well is located must be approached, and for the formation of a handloom weaver's cooperative it was essential to contact the caste of weavers in the village. A number of projects called for collective approach to the entire village. Efforts to build roads by shramdan or people's voluntary unpaid labor, or raising contributions to get the village lanes paved are two of the many items that call for such a collective approach.

The method of demonstration was to be used mainly in agricultural extension. The main idea behind these demonstrations is to give a convincing proof to the people that practices recommended by the Project are practical and easy in operation and profitable in results.

The people's participation in all phases of development activities was regarded as the most important part of the education process implied in the program. Gratuitous service to an unconvinced people was to be avoided as far as possible.

As demonstrations and participation by the people depend ultimately on the success with which villagers have been approached, it might be useful to sketch the methods of contact tried in the western U.P. Project.

III.

The decision to launch a rural Community Development Project Block in this area was announced in March, 1953. The selection of villages to be included in the Block was made by the District Planning Committee, which included among others some important representatives of the rural elite from this area. Principally through word of mouth information was passed along to the village people that the government was shortly to start a many-sided program of rural development. Among literate villages, especially those who had regular urban contacts and affiliations with political parties, there was some awareness of the national programs of this type. In addition, it was possible to learn of such programs and of the local project prior to its inauguration from radios, movies, newspapers, and political meetings.

Information regarding the Community Development Projects was being broadcast by the All India Radio, but it is doubtful if it contributed much to the information about the existence of such plans of the few owners of wireless receiving sets in this area, and through them to the awareness among the village people. The number of radio-owners in the villages is very small, and the community listening sets that a few villages possess are often out of order for long periods. Thus very few people have access to wireless sets. The few who do have them rarely listen to the village programs broadcast from the Delhi or Lucknow stations of All India Radio. Their favorite programs are movie songs, religious discourses, and, in some cases, news. Ownership of a radio set is a mark of urbanization: the owner identifies himself, consciously or unconsciously, with the world of the city and therefore interests himself in items that have a distinct urban appeal. When some of the radio owners were asked to explain why they did not listen to the special rural broadcasts they said: "We listen to the radio for a change. In the rural programs we have village songs, and skits and dialogues in a local dialect. Do we not have too much of these things around us already? These programs do not interest us. If city people were to listen to them they would probably learn something about village life." When it was pointed out to them that these stations were also broadcasting some useful talks for the agriculturists there was no response from them. Apparently little was known about these programs. One villager, however, said: "Are they useful? Are their weather forecasts ever correct?"

The cinemas at the district headquarters and the Project headquarters regularly showed documentary films and newsreels about community development programs in action, and these in a very general way contributed to the information of a small section of village people. Through them this information circulated to some more people in the villages. Very few people from the countryside go to the movies regularly; to most people it is a very special and rare treat. Along with regular films some newsreels or short educational films are regularly shown, but these are regarded as being closer to advertisement slides than to the main feature. The language of the commentary in these films is often so bookish that village people find great difficulty in understanding it.

The national press had given very considerable publicity to the first Five Year Plan and its constituent parts, but it could not affect the village people much as very few copies of such publications are subscribed to by village people. Weekly newspapers published at the district headquarters and the publications of the Panchayat Raj Department contributed a little more to spread knowledge regarding the proposed Project and its aims. The few papers coming into the village do get read, and through gossip and discussion the news gets disseminated in the village to some extent. Information derived from newspapers as well as from political meetings first comes to the village elite (specifically, persons who have contacts with urban people, officials, and political workers), and is conveyed by them to their immediate associates in the village. Finally it reaches a section of the others through these intermediaries.

One of the most important sources of information in the pre-inauguration period were the political meetings attended by village leaders in which leaders from the district and the state outlined the proposed undertaking. When the Deputy Project Executive Officer of the Project started a survey of the area with a view to formulating a three-year development plan some more information about the Project was spread. The Panchayat Secretaries,¹ Lekhpals,² and Cooperative Supervisors assisting him in this work were instrumental in this.

The impact of all the sources of information sketched above, however, was not very great. In a survey conducted at the end of the first year of Project activities in two villages of the area, it was found that only eight per cent of those who know about the existence of the Project had come to know about it before its formal inauguration in October, 1953, through one or more sources described above. It was not possible to attribute knowledge in individual cases specifically to any particular one of the sources because most of the informants could not pinpoint the exact source from which they derived it. However, the sources of information could be graded roughly in order of their importance as: political meetings, press, radio, and movies.

The inauguration of the Project by the Chief Minister of Uttar Pradesh was preceded by a concentrated drive to attract as many people as possible to the function in which it was to be launched formally. The inauguration ceremony itself was accompanied by great fanfare. The Village Level Workers, Panchayat Secretaries, Lekhpals, in fact all village level officials of the government, had gone from house to house in the villages of the Development Block, asking people to attend the function and give a rousing reception to the visiting dignitary. The village where the ceremony was held was especially cleaned for the occasion. Development slogans, such as Jag utha grām, khil utha desh (villages are awake, the nation is blossoming) panch raj parmeshwar raj (rule by village representatives is like rule by God); swachchha gharon men Lakshmi wās Karti hai (clean houses are the abode of Lakshmi, the goddess of wealth), and machchhar jivan ka nash karte hain, ham machchharon ka nash karenge (mosquitos destroy life, we shall destroy the mosquitos), were written in bold letters on the walls of the

¹ Clerks maintaining records of the proceedings of gaon panchayats (village councils) and adalati panchayats (village judicial tribunals). Members of both these bodies are elected by the village people.

² Village accountant responsible for maintaining land records of the village.

houses all over the village. The site of the function was impressively decorated. The function attracted the rural elite as well as a large number of others from the villages of the Development Block. A number of speeches, climaxed by one from the Chief Minister inaugurating the Project, were made on the occasion. The central theme of all these speeches was the subject of village development, and the speakers, after describing what the government was doing for the villages exhorted the people to take up the challenge and assume responsibility for their self-development.

In the period that followed several different methods were used to communicate the program to the people. Important among them were (1) slogans, (2) pictures and posters, (3) pamphlets and publications, (4) movies, (5) tournaments and competitions, (6) exhibitions and conferences, (7) propaganda meetings, (8) fraternization, (9) visits by dignitaries, meetings and speeches, (10) social education classes and community centers, (11) camps and sight-seeing tours, and (12) work with local agents of change. The methods followed in each of these types of contact are summarized below together with brief analyses of the general pattern of response toward each of the different media of communication adopted by the Project.

(1) Slogans. Reference has already been made to the slogans that were written on the walls of the houses in preparation for the visit of the State Chief Minister. These slogans were written by school masters and students under the direction of the Village Level Workers and other Project officials. This activity was later extended to many other villages of the Project area. Development slogans were also used in connection with national celebrations such as the Indian Independence Day (August 15), the Republic Day (January 26), and the birth anniversary of Mahatma Gandhi (October 2). On these days processions of school children and villagers were organized which went around the villages shouting these slogans.

The use of slogans, although not indigenous to the culture of village communities, has become fairly popular since the days of the resistance movement against British domination in India. In a short and easy to remember sentence the slogans convey a message. It is true that because of the cultural predisposition of the people the slogan is sometimes interpreted by the villagers in a sense different from the one which it is intended to communicate, but it must be said that it is remembered for a long time by a large number of the people. In our investigations it was found that many people learned for the first time through slogans written on the walls that the mosquito was the source of malaria. Many of those who show enthusiasm for village sanitation programs say that they became aware of its necessity by reading the slogans. In any event it is one of the most inexpensive ways of offering an idea: the written words catch the eyes of people again and again, and slogans shouted in meetings and processions ring in the ears of some for a good many days afterwards.

(2) Pictures and posters. Shortly after the beginning of the Project some posters and pictures were distributed in a number of villages in the Development Block. Because of limited supply from the national and state headquarters their distribution was restricted to public bodies, such as Panchayat offices, schools, and cooperative seed stores. At these places they were prominently displayed. These posters and pictures related mostly to the importance of cooperation, value of education, necessity of sanitation, and the role of gaon sabhas and panchayats¹ as instruments of rural welfare and development. After the first set distributed at the time of the inauguration of the Project no more were received from the headquarters and consequently their use as a medium of communication remained extremely limited.

The pictures and posters are eagerly sought and carefully displayed by the villagers, but it is not possible to evaluate their utility as a medium of

¹ Under the Panchayat Raj Act of the Uttar Pradesh Government the gaon sabha consists of all adult residents (without certain specified disabilities) of a village; the gaon panchayat is its executive body and consists of representatives elected by the gaon sabha.

communication because their use in this Project was so limited. Most of these pictures and posters displayed in panchayat houses, schools, and cooperative seed stores were not particularly imaginative or attractive and did not display much understanding of the village people's interests and were generally banal and cheerless.

(3) Pamphlets and publications. These may be considered under three categories: publications of the central and state governments, publications of the Project, and announcements regarding specific programs. No publications were received from the central and state headquarters for distribution or sale to the public, and very few were received for circulation among the field staff of the Project. A few copies of two booklets issued by the Planning Research and Action Institute of the U.P. Government in connection with the 4H Club movement, one on the cultivation of tomatoes and another on the cultivation of the egg plant (bringle), were made available for sale at the seed stores.

During the first half of its life the Project issued three publications. The first of these explained and illustrated a plan under which certain crops could be grown profitably for a few years in areas where orchards had been newly planted. The main idea of this leaflet was to dispel the feeling common among agriculturists that planting of orchards involved an investment which had no prospects of any immediate returns, and that for profits it was necessary to wait until the plants become trees and start bearing fruit. This publication sought to illustrate how with a little planning and care earlier returns can be secured. It also gave estimates of costs involved in planting different types and sizes of orchards, and offered practical hints regarding modern methods of planting different types of fruit-bearing trees. The appeal of this brochure was limited to men of substantial means who could spare the land and afford the investment involved in the planting of orchards. Copies of this brochure were preserved by many literate agriculturists. It was simply written and easy to understand, and had useful and practical hints on methods of planting different types of fruit-bearing trees. As village people still tend to regard most printed matter as authoritative and correct, it would perhaps have been useful to issue more publications of this type.

The second publication of the Project was a small collection of development songs called *Badalti Duniya* or "The Changing World." These songs were improvised by the man in charge of development publicity in the Project, and had been popularized by him through the numerous meetings he had addressed in the villages of the Block. They had direct bearing on one aspect or another of development work undertaken by the Project. Their tunes were catchy, and were based mostly on popular film or devotional songs. The collection was very enthusiastically received, and within a month 970 copies of the booklet were sold. Some of these songs became popular in the Project area in a short time. The reasons for their success are fairly obvious. The songs were written in simple language that stayed close to the village idiom. They used the appeal of Indian history and of mythological and national heroes. They rarely mentioned things that were outside the experience of village people. Being based on familiar and catchy tunes the songs could be remembered easily.

The third publication was a booklet in standard Hindi outlining the achievements of the Project during the first fourteen months of its existence, and was of little practical utility.

In addition, leaflets and announcements pertaining to specific project activities, shows, and exhibitions were also issued from time to time.

(4) Movies. The Project could not use movies for propaganda purposes as much as planned, because of difficulties in getting a suitable operator and in getting the projector and the generator repaired in time after the frequent mechanical breakdowns. These were to be used for showing films produced by the Films Division of the Government of India. This organization has produced two types of films: documentary films showing the progress that is being made in the country under the first Five Year Plan; and instructional films illustrating the techniques that are being promoted by the development projects. The Planning Research and Action Institute of the State Government

had a good selection of these and other movies on development subjects. In conjunction with propaganda meetings, camps, and exhibitions some films were shown in the villages and at the Project headquarters. They attracted good audiences, but generally failed to hold their interest. Most people were drawn to these shows in the hope of seeing regular films with glamorous stars, spicy dialogue, and lilting love songs. Instead they found that they were being treated to old newsreels and uninteresting short educational films. Documentary records of development activities which are being carried out in other parts of the land and films showing major industrial undertaking are not without significance, but unless they are presented to the villager in an easy to understand form they do not mean much to him, and as people are predisposed to look for entertainment in the films, it will probably be necessary to combine it with the instructional part. The films shown in this area were rather disappointing; in theme, treatment, and language they were wholly alien to the people, and therefore failed to interest them.

(5) Tournaments and competitions. Four types of competitions were organized by the Community Development Project. Sports tournaments were mostly for the members of the 4H Clubs, but on special occasions, such as the annual Development Exhibition and Fair, they were open to all residents of the Development Block. These were largely the affair of school-going children and there was sufficient inter-village competition.

Officials tried to encourage similar healthy rivalry in respect of the work of 4H Clubs also. The Project sponsored crop competitions on the village, adalati panchayat, and Development Block levels. In addition, people were encouraged to enter their cattle in these shows, and committees of judges awarded prizes to the best cattle in the different classes. Many of the cattle shows were not properly publicized and a few of them were ill-timed, but on the whole a fairly large number of people entered their cattle in them. The quite substantial and useful prizes offered to the winners were an inducement to many people to enter their cattle. Judging in almost all cases observed by us was impartial, and it was the effort of officials to give prizes to the very best cattle in the show. But this left many people disappointed. Some felt that all villages entering cattle in the show should have been rewarded in some way or the other for their cooperation: a village would not lose face if even one of its residents got a prize. In one case it was found that the leaders of the village which had secured a large number of prizes were half-apologetic, for their very success was viewed by others as a mark of selfishness. This attitude came out more clearly in the crop competitions. To begin with competition was not very keen. Their success in one competition did not particularly inspire the winners to make better efforts in subsequent competitions. In the second year's competition one of the winners of the first year said: "I do not want to be selfish. Others should get the prize this year." There is little evidence that anyone adopted new practices or took extra care of his crops in order to win a prize in these competitions. Often they were announced when the crops were half ready, and when extra attention could not have made any appreciable change in either the condition or the yield of the crop. In fact only a small fraction of the agriculturists in most villages ever knew about these competitions. Besides, entering a competition involved the payment of a small fee and allowing one's name to be entered in government papers. The average agriculturist resented this. The fee was regarded as an unnecessary taxation, and the reluctance to get their names entered in official records was due largely to the average villager's fear of getting involved in unwanted complications with the government. It is true that on the district and state level competitions very substantial prizes were offered, but relatively few people were aware of the existence of these competitions, and of the few who knew about them not even a fraction had the zest to enter them. The prize money for the village competitions was collected from the villagers themselves in the form of an entrance fee. With a view to enabling a large number of agriculturists to enter the competition, this fee had necessarily to be very small. Even then relatively few people entered the competitions and this resulted in some cases in the first prizes being as ridiculously low as Rs. 2/8 - (about 50 cents). Such prizes could hardly be an inducement to the competitors. Some of the more well-to-do agriculturists considered it below their dignity to accept such prizes!

Finally, a large number of village and Project Level baby shows were held under the auspices of the Project, and prizes were awarded to the healthiest and cleanest babies. These attracted a fairly large number of competitors. As practically all babies entered in these shows were given small presents the parents were quite satisfied. They furthered the development objectives of the Project by increasing the general awareness among the women of the existence of the Community Development Project and by bringing them in closer touch with the midwives and the Assistant Project Officer (Women's Welfare).

(6) Exhibitions and conferences. The Project organized two annual Development Fairs—one in 1954 and another in 1955. Annually a similar exhibition and conference was also held at the district headquarters. As the Development Block is a part of the district, some of its residents attended these exhibitions and conferences also. In the fairs, a separate day was set aside for women, the program including women's sports, a baby show, and a women's conference. Cattle shows, wrestling competitions, sports tournaments, and poultry shows were also organized. The program for each day concluded either with a film show or a propaganda meeting.

In conjunction with the fairs a series of conferences of agriculturists, cane growers, members of the cooperatives, and members of village panchayats were held. All the "village leaders" with whom the Project worked closely were invited, and this honor was appreciated. Invitations to attend government sponsored conferences generally added to their prestige in the village community. The proceedings of the conference added generally to their understanding of Project achievements and future plans. Some of these participants expressed the problems and grievances of the village people and this in a way aided the Project officials in understanding local needs and reactions.

Development Exhibitions formed an important part of these fairs. Stalls showing the work of the Project in the fields of agricultural extension, horticulture, cane development, cooperatives, rural health and sanitation, and women's welfare, were put up in these exhibitions. Within the exhibition area improved agricultural practices were demonstrated in especially prepared plots. There was a display of improved agricultural implements. Small models of sanitary wells, soakage pits, and several types of hygienic latrines were also constructed. The exhibitions drew a comparatively larger number of people, but the meetings held in conjunction with these exhibitions were dominated by the "leaders." Of course the Project aimed at getting a much wider audience, and with this end in view made special efforts to get people to attend the exhibitions. The Development Fairs were announced by colorful leaflets, and people were brought to the exhibitions by Project jeep and tractor. It is doubtful if these exhibitions were educationally a success in the sense that they taught any specific techniques, or even in that they attracted all sections of village people. But their success in attracting a politically conscious and vocal section of the people was certainly worthy of note.

(7) Propaganda meetings. The Project employed a former Arya Samaj¹ propagandist as the head of its publicity unit. This unit went from village to village in the Project area addressing audiences on development themes. The propaganda and discourses of this unit followed the conventional Arya Samaj pattern. While the leader of the unit preached the other two members accompanied him; either by playing musical instruments or by repeating his lines at appropriate pauses. To reiterate, emphasize or illustrate the points the unit used to draw upon Indian mythology and history, and on popular folk-tales, proverbs and common village anecdotes. By using propaganda forms already familiar to the people it could easily get eager and sympathetic audiences. People could grasp the message of development conveyed in songs and discourses punctuated by humorous anecdotes, village proverbs, and folk tales more easily than they could from high-sounding speeches with alien themes, symbols and

¹ A movement for socio-religious reforms in Hindu society. One of the aims of this movement was to bring back to the fold of Hindu Society persons who had embraced Islam or Christianity.

language. Its songs became especially popular. It is not suggested that the ideas communicated by this unit were accepted, but the important thing to remember is that they were understood.

(8) **Fraternization.** One of the aims of the orientation courses organized for officials working in the development projects was to create in them a feeling that in the new India they could not live in an official world of their own, separate from the world of the Indian villagers. Past administrative traditions have created a wide gulf between the world of the village folk and the world of the officials. The official is a representative of the urban world, and is marked out by the fact that he is a limb of the all-powerful and paternal mechanism of the state. Under the British regime the villagers generally looked with some awe to the officials, and carried out their orders for fear of the government. In the post-independence period there has been some change in this attitude; in the upper stratum of village society there was feeling that the government need not be feared to the same degree now as it was feared in the past. But the villagers still feel suspicion and distrust of the officials, and even some well-intentioned approaches of the latter are misunderstood by them. For the successful implementation of the rural development programs it was felt that the walls of distrust and apprehension separating the village people from the officials should be demolished. It was with this aim in view that an effort was made to orient the officials in new techniques of mass contact and extension work. They were expected to make special efforts to come close to the village people and gain their confidence. This brought about some change in the officials' attitudes and behavior. Officials learned to greet the village people cordially, and started occasionally joining their functions and ceremonies. While the general desirability of fraternization was recognized no definite steps had either been devised or recommended in this regard. The initiative was largely left with the officials.

It was generally realized that century old traditions could not be undone in a few days, but a beginning in the right direction was made. On the desirability of fraternization both sides had certain mental reservations. Many officials were not wholly convinced that the new approach would work better. Some of them frankly thought that "strong-arm" administrative methods were more effective than the "weaker" approach which treated people as equals. In fact among the village people also there were many who had misgivings about the gradual softening of government attitude. Some people thought that fraternization would impair the impersonal nature of administration and make an impartial and non-partisan approach to internal village and inter-village affairs difficult if not impossible. In fraternization they saw a danger of officials getting mixed up in local factionalism and village politics. Some of these doubts were not wholly unjustified. Fraternization involved establishing friendly relations, and friendships, according to village norms, involve a series of mutual and reciprocal obligations. Hospitality must be returned in one form or the other, and one must support one's friend. Friendship with a person also means identification with his group or faction, and by implication hostility to rival groups and factions. Naturally the officials have to be very careful in their fraternization moves, for if they identify too closely with one faction their plans could only have partial success. The members of the friendly group would support the officials not because they are convinced about the utility or efficiency of the programs sponsored by them, but simply as their part in the obligations of friendship. On the other hand the members of the hostile group would feel it their duty to reject anything offered by officials identified with their rivals, even if they saw merit in the program.

However, the gulf between the world of the village people and of the officials is still so wide that the ideas and programs of the latter are rarely accepted at their face value. The official gets promises of support publicly, but once he withdraws from the scene the village people dissect and analyze his statements from several angles and try to see all kinds of hidden motives in them. Their final response to a program sponsored by an official is heavily colored by their prevailing stereotypes regarding officials. Yet though a feeling of distrust against the "official world" is general, the people do distinguish between different types of officials and between individual officials, and there is a certain type which they tend to trust more. It is here that friendly moves

and fraternization can succeed. The efforts of community development officials in this direction were, on the whole, very warmly received and were definitely welcome to many. Of course there were some sceptics who did not see in these efforts any evidence of real change, and a few critics who mourned the weakening of the government's authoritarian role and status, but to many these steps were definitely welcome.

In 1955 the Deputy Project Executive Officer of the Block tried a somewhat unorthodox experiment. It was so enthusiastically received by the village people that it deserves special mention. On the day of the Holi festival,¹ the entire Project staff at headquarters set out on a mass fraternization expedition. A large trailer was attached to the Project tractor. The group equipped itself with two large barrels of colored water and an adequate supply of color. They took with them some D.D.T. spraying machines for sprinkling this colored water on the village people. The propaganda unit of the Community Development Project accompanied the group with its musical instruments, and a microphone and loud-speaker.

The group visited about six villages, singing Holi songs and spraying colored water on the people they met on their way. In the villages they left the tractor, and went around to the different quarters meeting people and throwing colored water and powder on them. The propaganda unit sang Holi and development songs on street corners. It was the view of many people especially interviewed on this subject that within their memory nothing like this had happened in their village: government officials had never mixed with them as equals before.

(9) Visits by dignitaries, meetings, and speeches. Speeches were regarded, in practice if not in theory, as the most effective media of communicating a new program to the people. Many of the methods of approach sketched above involved considerable speech making. Meetings were held for visiting dignitaries--high ranking officials as well as important political leaders.

If the visitor happened to be a "very important person" his visit was often preceded by a period of hectic activity in which incomplete projects were completed, some new projects were begun and there was a good deal of last minute mopping and dusting. This activity on the part of the subordinate officials stimulates at least temporary interest among the people. Hospitality occupies a very high place in village culture, and visits by important people are viewed as an honor to the village. The village elite, especially the leaders, are enthusiastic about such visits because they enable them to establish or strengthen contacts with important figures and celebrities and to demonstrate their importance to their fellow villagers. In the atmosphere of general enthusiasm created by such visits the field agents of the Project find an opportunity to complete many projects which either did not receive any support at all or got only partial support of the village people. The official is not interested in getting a thing done only, his main interest is in getting it done in time to be able to show something concrete to the visitor. In lending support to such programs the motivation of the village people is different. They are not always convinced about the utility or even the desirability of the program that they now support with enthusiasm. Traditional norms of hospitality require that something special must be done to please a guest; and for an especially important guest something very special must be done. Then there is the consideration of the prestige of the village. This factor is considerably exploited by the officials. In order to uphold the dignity of the village, the residents do everything possible to impress the visitor. Within a short time compost pits are dug outside the village, soakage pits are constructed at strategic points in the village, and model sanitary repairs are done to some of the village wells. The visiting dignitary is shown these achievements with due ceremony, and in return commends the enthusiasm and efforts of the village people. When the visit is over the compost pits remain unused, soakage pits are not kept in condition, and the hygienic significance of

¹ The spring festival of the Hindus.

the repairs to the wells is little appreciated. The field officials have the consolation of having met some of the physical targets, the village people are satisfied that they have done their best to impress the visitor. To be fair to the visiting officials and leaders it should be added that most of them do not naively accept as the reality what they see at the surface, but often they do not have a constructive alternative to offer. Many of them probably understand the true motivation behind these "show projects," but, in the belief that "every little bit helps" they hope that having done a thing people will ultimately see its utility and will learn to use it for purposes other than the immediate purpose of putting on an impressive show.

Meetings addressed by well-known figures have become an important but somewhat obscure ritual. The meaning of this ritual is often not quite clear to a majority of the people. Thematic analysis of a dozen speeches of leaders and higher officials reveal a number of recurrent themes. The most common of these contrasted India's present plight with its high position in the past: from a land "flowing with milk and curds," India has now become a land of poverty and starvation. This was followed by the inevitable appeal that through hard work the country could be restored to its ancient glory. Another rather frequent theme was that India lost her freedom to the British because of her "weakness"; unless her people now worked hard to build up the strength of the country there was very great fear that some foreign power may again conquer the land. To avoid foreign domination it was necessary for the village people to take up the challenge and make the country strong. A third theme was that it was Mahatma-jī's (Gandhi's) wish to see Indian villages happy and prosperous; he did not live to see the day, but his heir Jawaharlal Nehru, is determined that his countrymen do so without losing time. The world had recognized the greatness of the Mahatma, and Nehru's views command great respect in international affairs today: if so many other countries have chosen to follow their lead Indian village people owe it to themselves to rally behind their leaders and make a success of the development program. Then there was the appeal to do things by citing similar and encouraging examples: if the United States, Russia, and China could build up their national prosperity from rather primitive beginnings, why could India not do the same? Another important theme was that of the changing times; with the advent of independence a new epoch had been ushered in, and people have to change their ways to suit its climate. There were frequent references to the importance of villages in Indian national life. A point that was often emphasized in this context was that India's plans for industrialization and her many power projects could never succeed if the village people did not improve their agriculture and produced enough food for people working in the other fields.

These more abstract and literary speeches mean little to the average men. Their primary utility probably lies in linking village thinking with trends of national thought through the rural elite. This in itself is of great significance. However, the effectiveness of this technique in conveying the development ideology and program to the general populace has serious limitations. The language, symbols, and appeal of these speeches are not easily grasped by the village mind. Another factor influencing the effectiveness of this medium of communication is the considerably altered villagers' view of the role of "leaders." In the days of the national struggle for independence the leader was stereotyped as a self-sacrificing patriot who gave up personal comfort and security to court imprisonment and physical suffering in the cause of that nation and its people. In the days of the mass struggles, the leaders were more closely associated with the people. Their transition from British jails to high offices and positions of power has brought about a fundamental change in the situation. People have not lost faith in the leaders, but they are beginning to feel that they are not different and more distant. Those who expected independence to bring about an almost magical transformation in the country are somewhat frustrated, and do no longer take the promises of the leaders at their face value.

These themes and appeals were echoed in the speeches and propaganda of lesser political leaders and field workers of the Project, but many of these spokesmen were more down to earth and used symbols, anecdotes, and appeals that could be more readily comprehended by the people. In putting across their ideas to the villagers, and especially in trying to secure their cooperation

in action programs, they also appealed to the people's pride in their caste and village. For example in his speech in a Rajput village a development official said: "Look to the Jats.² What progress are they making? They do not have half the land you Rajputs have; but they work hard. While a Jat spends his time in the field, you sit on the platform of your house and smoke hubble bubble (water pipe). When the Jat thinks seriously about required improvements in his land, you only think about petty village squabbles." Another official said: "Yours is a large village, perhaps the largest in the Project area. But what are your achievements? What have you done to improve your village? And look at village X. With one tenth of your population they have done ten times more work." By using impersonal ridicule certain points were communicated in a very telling manner. In the distribution of prizes following a Cattle Show the District Livestock Officer began his speech by saying: "An American came to India. In his country he had heard that Indians as a people were very devoted to the cow, and worshipped her as a mother. Naturally he expected that he will find cattle of good breed--healthy and well looked after. And what did he see? Emaciated cows, giving less milk than American goats! We are proud that milk and curds used to flow in our country and say so times without number. But what is our present conditions? Some of our cows give just enough milk to make a cup of tea!" On another occasion the same officer said: "We all regard the bull as sacred. We are right; for an agricultural people a bull is really sacred. When a child is seriously ill, some parents say, 'O God! Let our child recover. We shall leave a bull in Shiva's name when the child recovers.' And when the child recovers you leave the weakest calf to grow into a bull. Is this a good way of acknowledging your gratitude? You want to deceive God by giving him a counterfeit coin! God does not have to punish you. You punish yourself and your community. Your bull can only have weak offspring. You may not realize it, but your cultivation suffers. Why cheat God? Buy a bull of some really good breed. That will please God and benefit your community." The Assistant Project Officer (Social Education) had to address a meeting of women in a village. He began: "I came to this village to address a gathering of mothers and sisters. For two hours before the meeting I was wondering if there were any mothers or sisters in this village. Do you know why? Can you even guess? I will tell you why. I looked at the children--one, two, ten, twenty, in fact as many children as I could see. Their bodies were unclean and their clothes dirty. Some had sore eyes, all had running noses. Seeing this I thought that this must be a village without any mothers and sisters. Mothers and sisters would not leave their sons and brothers, daughters and little sisters in this shape." To give one more example, the propaganda unit of the Development Project arrived in a village at 9:30 p.m. to address a gathering on the subject of health and sanitation. The leader of the unit began by saying: "Sorry, we are late. It is dark and we lost our way. Your village is hidden in thick groves, and we could not see even the twinkling of a little earthen lamp. But when we were about half a mile away from your village, we knew that we are near it. Ask me how we knew it? It is simple. You do not yet have compost pits. Uncovered manure heaps in your village emit such a foul smell that from half a mile one could know that your village was near." Continuing, the leader asked: "Is there any one in the village who does not know that cow dung is a valuable manure?" Some people said: "Everyone knows that." At this he asked: "And is there anyone in the village who can honestly say that he does not burn a lot of this potential manure in his hukka?"

It is perhaps needless to add that specific items recommended by the Project such as improved seed, fertilizer, modern agricultural implements--were supported by rational appeals concerning their utility, efficiency, economy, durability, and productivity.

¹ An agricultural caste of the area belonging to the Kshatriya division of Hindu society. Ritually they rank next to the Brahmin group.

² An agricultural caste ranked lower than the Rajputs. Village stereotypes do not credit them with much common sense, but they have a reputation for being capable and industrious agriculturists.

Thus, officials engaged in development propaganda in the field have shown better understanding of the motivations of village people in accepting items of the government sponsored program of change. It is true that their speeches are often the echoes of the lectures of leaders and high officials, but when they descend to the level of the village people and make the kinds of appeal that are a part of the village cultural pattern they attain their first successes in communicating ideas and programs to the people.

(10) Social education classes and community centers. As a part of the development program social education classes and community centers were started in a number of key villages. The social education classes, which were organized separately for men and women, aimed at imparting education for a better life. Although adult literacy formed an important part of their activities, they were expected to prepare the people, in the long run, for cooperative and democratic action in the field of village welfare and development. In fact, they concentrated largely on adult literacy, and not on education for better life. They failed in achieving even this limited objective for a variety of reasons. To begin with they were not properly timed. The start of the classes for men coincided once with the start of the sowing season, and another time with the start of the harvesting season. Because of their preoccupation with agricultural activities very few people were attracted to these classes. The second cause of their failure could be attributed to the attitudes and values of the people. Although literacy and education are highly valued by them, only children are supposed to attend the classes in schools. An adult exposes himself to general amusement and mild social ridicule when he starts going to school with a slate and a pencil. As a consequence of this attitude adults who registered for these classes slowly dropped out of them, and in the end only a few boys who had failed to complete their school grades were attending them. The classes for women also met with similar difficulties. Teachers in local girls' schools were generally employed to run them. Of necessity they could hold them only in their spare time, i.e. after their regular school hours. However, most women found it difficult to attend them because domestic duties required their presence at home during these hours. Cultural factors limited the utility of these classes still further. The younger daughters-in-law could not join them because the cultural norms of the community did not approve of their "wandering about" like grown up women; women with two or three children, on the other hand, were not prevented by these norms from joining the classes but they had little inclination to do so. Most of them thought that they were too old to go to school. Besides, they could neither take their children with them to the classes nor could they leave them at home.

If such classes are to succeed they will probably have to be organized differently. Their striking resemblance to the elementary school classes pre-disposes a number of people to keep away from them. In respect of their organization and methods of teaching they largely follow the orthodox pattern of elementary schools, and fail to hold the interest of the adults. Recognizing the general failure of this part of their development program the officials of the Project decided to discontinue the classes for men at the end of the first year of Project activities. The classes for women were, however, reorganized and continued.

The community centers aimed at providing healthy and creative recreation to the people. It was hoped that because of their association with these centers the people will come to have a better understanding of the aims and methods of community development. The centers were treated as an adjunct to the adult classes, and their activities were confined mostly to community singing of religious and devotional songs. In most cases only small groups of younger people were interested in them, and no efforts were made to organize them with a wider base.

(11) Camps and sight-seeing tours. The Project organized two camps, one for village leaders, and one for youth leaders. The purpose of these camps was two-fold: to educate the leaders and key individuals, participating in the camps, in the aims and methods of rural community development, and to prepare them to assume an active role of leadership in village development activities.

The camp for "village leaders" was organized in a great hurry. The participants were not chosen with sufficient care; nor was sufficient thought given to the planning of its activities. On the whole this camp left an impression of aimlessness and lack of planning. The Youth Camp was much better organized, and was attended by over 100 young people. Its activities created some stir in the village where the camp was held and also in the neighboring villages. It left a general feeling that something was being done. The participants themselves were favorably impressed by the outcome of the camp and felt that personally they had gained by joining it. However, only nine participants of the first camp showed continued interest in the work by joining the follow-up camp held a few months afterwards.

With a view to creating development consciousness among the village people, especially among their leaders, parties of villagers were taken out once a year on sight-seeing tours of other Community Development Projects. Parties of adults included enthusiastic agriculturists and village leaders. Some batches of younger people consisting mostly of leaders and workers of the 4H Clubs were also taken out on such conducted tours. The sight-seeing tours could not be described as a success. Adequate care was not taken in the selection of village people to join these trips. They were hurriedly planned and not too imaginatively organized. In late February and March, when the financial year was almost about to close, there was generally a great rush to send out such parties to insure that the money budgeted for this purpose did not lapse. Naturally in such haste it was not possible to select the best people to join these groups. In the selection of the Projects to be visited there was considerable lack of foresight and planning. In one case village people from this Project area (which is agriculturally more advanced than several other parts of Uttar Pradesh) were taken out to observe agricultural extension work in another Project where the general level of agricultural development was rather low and where the Project had done very little to improve it. It is only natural that their reactions were unenthusiastic. It is doubtful if many of those who were taken on these conducted tours returned sufficiently impressed or enthusiastic, and there is little evidence of their having communicated either enthusiasm or information to other villagers.

(12) Work with local agents of communication. Besides the appeals addressed directly to people at large, the Project hoped to be able to work intimately with a smaller group of individuals who were expected to function as local agents of change. For this purpose persons occupying existing positions of leadership in the village as well as traditional leaders were to be used. The underlying assumption in this approach was that if leaders could first be converted to the ideology of change, the task of converting the rest of the community would be greatly facilitated. Implied in this assumption was the belief that people normally looked to this group for guidance and would automatically start emulating their example once they adopted the new practices. It was also hoped that by making them a link between the officials and the people some of the difficulties in communication would be appreciably reduced. Persons elected to local offices by popular vote were regarded as village leaders. Other important and respected individuals were also included in this category. Group discussions and individual contacts were largely confined to this group. The response of this select group was on the whole enthusiastic, and in the first instance the development officials were greatly encouraged by this welcome. However, these assumptions did not take into account certain vital factors governing the villagers' ways of thinking and acting. The first mistake was in assuming that these people were the leaders. In point of fact they were leaders, but not the only leaders. They stood midway between the average, more traditional village-folk, and the urban world. The village looked to them for guidance in its general relationship with the urban areas and the officials; and their help was sought in legal matters, in contacting and influencing officials, and generally in facing problems that arise out of contact between the village and the outside world. They were not necessarily looked upon as leaders in agriculture, nor were they in any sense decision makers in many vital matters concerning the individual and his family. Because of their association with the officials and the urban ways of life these leaders as a group had come to possess a special status within the community, but the average villager did not trust them without reservations. Some of the common stereotypes regarding government officials applied in a

modified form to these village officials who were recognized as having a semi-government status. This group on its part sought to maintain its separate and special identity by differentiating itself from the average people and by closer identification with the officials. Among others included in the category of "traditional leaders" were the important and influential people in the village. Most of them were naturally from the dominant land owning group. In identifying power and status with leadership, an important and emerging aspect of group dynamics was ignored. While some recent state legislation has created possibilities for the emergence of new leadership, the undue emphasis in working with "traditional leaders" was construed by some villagers as an effort on the part of the government to maintain a status quo in the internal power relations within village communities and indirectly as a step to support the domination of the landowning groups. Thus the policy of the government on the subject of leadership seemed contradictory and confusing. A closer study of group dynamics in village communities reveals several different levels of leadership, each with somewhat specialized functions. Many persons commonly described as "leaders," as suggested earlier, gained this position because of their contact and influence with the officials and regional politicians. Some of them have adopted this role semi-professionally. Their role and functions in village life are fairly well-defined and specialized. However, their influence in other spheres is almost negligible. An excellent village politician is rarely a model farmer; the latter is generally an obscure and apolitical person "who minds his own business." In adopting agricultural practices people are more likely to follow his example, rather than that of the local politicians. The same could be said in reference to important and influential people. Their importance often stems from their economic position. In the class system of the village they are invariably so different from a majority of the people, that persons from the lower levels look to them with distrust. Most of them are more feared than respected, and it is not difficult to notice signs of covert antagonism against them in the lower classes. In certain situations close identification with this class becomes a hindrance in the furtherance of development objectives for the whole community. However, these groups can be useful in certain ways. In initiating action through existing agencies of local self-government their help is indispensable. More than anyone else they can raise subscriptions from the village for development work. They can also be depended upon to collect enough people for shramdan. For completion of physical targets within prescribed time limit such help appears too attractive to most development officials to be resisted, yet in many cases it defeats the long-term democratic and educational aims of the program. A target met is an achievement, but if it leaves a feeling among the people that government is resorting to extortion and forced labor, perhaps the loss outweighs the gain.

Because of the internal complexity of village organization resulting from caste and class divisions and from existence of factions, it is always somewhat unsafe to work with any one set of leaders. In a given situation it is necessary to understand the levels of leadership and the sources of decision-making. For more effective communication and more understanding acceptance of the program it is necessary to reach the many diffused sources of decision making. Besides the important and influential persons and the local leader-politicians it is desirable to secure the support of various informal friendly groups and factions, as well as of persons holding key positions in caste groups and large kin groups. Cooperation of local leaders in specialities (such as agriculture and medicine) is often more helpful than the support of leader-politicians only.

IV.

It has been pointed out earlier that reliance was not to be placed exclusively on propaganda addressed to the village people either directly or indirectly through some of their established leaders; demonstration and public participation were also to be used as important media of communication. It was feared that mere oral propaganda in support of the proffered items would meet with general scepticism on the part of the people who might dismiss it simply as so much utopian talk. Demonstrations could radically and dramatically alter the situation. If people could see that the recommended practices were practical and profitable they were likely to adopt them more readily. Public participation was also viewed as an ef-

fective educational instrument. Through it the planners hoped to invest in the people a sense of intimate partnership and to demonstrate to them with concrete results what human muscles were capable of accomplishing. The experience of this project suggests that both these instruments have to be handled with great care.

1). Demonstrations. The general consensus of opinion in the two villages where intensive investigations were carried out in connection with this study is that demonstrations generally failed to communicate new methods of doing things and were not very successful in creating enthusiasm among the people about their results either. Indeed demonstrations by minor government officials are not new to this area. Agriculture and cane development officials had given routine demonstrations in the villages of this region for over two decades, without much conspicuous success. Some of the methods and techniques suggested by them had been adopted, often with local modifications. Intensification of agricultural extension work and a larger number of demonstrations given under the auspices of the Project have failed to improve the situation. The basic purpose of the demonstrations was not understood by a great many people. The general reaction of the people to these demonstrations can be summarized as:

(i) They represent a passing fancy of the government. Like many other moves on the part of the government in the past these demonstrations will be pressed for a few days, and will gradually be abandoned.

(ii) The officials are paid for their work, and so they have to show something to their credit. These demonstrations are one part of their work. By agreeing to have a demonstration one obliges a government official; one does not necessarily have to learn anything.

The motivation of most people in agreeing to have demonstrations in their fields can be classed into three categories:

(i) If the government desires a thing, it is best to cooperate with it.

(ii) If one can oblige an official by agreeing to have a demonstration one should not withhold cooperation.

(iii) In some of the demonstrations one can get free fertilizer, an opportunity which should not be missed.

In their hurry to complete the targets the officials were only too glad to oblige important people by giving them the benefits of such demonstrations. Very few other people were approached, and when they were contacted their motivations in agreeing to have the demonstration were rarely examined. In fact there was little consideration in the choice of people in this respect; completing the prescribed number of demonstrations was more important than imparting techniques to people. In a great many cases the agriculturists sent their servants or children with Village Level Worker when he was giving the demonstrations, and there is little evidence to suggest that the results were either seen or discussed by the people on any appreciable scale.

2). Public Participation. Public participation in Project activities has mostly been in the form of participation in shramdan (people's voluntary unpaid labor). These drives, often lasting a week, were organized under the direction of leader-politicians of the village. They could manage to collect a reasonable number of people for this work, but a great majority of participants had very little understanding of its purpose. There was not much overt resistance to it, but a very considerable proportion of the participants viewed it as a form of coercion and submitted to it in a spirit of obedience to government directives.

As the Project operated on a rigid schedule, and the higher authorities laid great emphasis on completion of physical targets, the officials were interested in getting things done somehow rather than in securing understanding cooperation of the people. It is true that the people could perceive some of the benefits of what they did under such mild or indirect government pressure, but it

is difficult to see how this approach could generate in them a habit of democratic cooperative action.

Communication is a two-way process: it involves giving as well as receiving information and direction. While this fact has been recognized in defining the role of the Community Development Projects as agents of communication and change, in actual practice the Projects have tended to assume the role of the giver and the village people have mostly been at the receiving end. The assumption underlying this practice has been that the major needs and problems of the village people are well-known, and that for a considerable time the Projects will have to work to provide for the recognized needs of the people. It is true that representatives of the public have been associated with the working of the projects at different levels, but so far a clear definition of the role of these bodies has not emerged. Policy making has mostly been done at the Central and State headquarters, which communicates decisions in the form of directives to the lower levels. The Projects--their officials as well as representatives of the people associated with them--enter the scene to implement these policies and directives. Thus communication is mostly one-way and from top down. A close examination of the records of various advisory bodies (with representatives of the village people) shows that so far there has been little effort to set up the complementary upward channel of communication. These bodies were contented with their share of help and advice in the implementation of some parts of the development program. It is necessary to add here that these bodies are largely an innovation, and at the time of the present study had been in existence only for about a year. During this period very few meetings of these bodies had been held and the time involved is probably too short for a definition of their role to emerge clearly.

V.

A summary view of one type of result of these communication efforts may be obtained by examining the extent to which knowledge regarding the Project and its activities had penetrated two fairly representative villages of the Development Block at the end of the first year of development activities in the area. For convenience we shall call these villages "Rajput Village" and "Tyagi Village." In the former a 10 per cent stratified random sample of the male population was interviewed; in the latter--because of its size--50 per cent of the male residents were interviewed.

In Rajput Village out of a sample of 114 persons 56 had heard about the Project, 58 had not. Sixty-four persons had attended meetings and functions organized by the Project, although some of them were not aware of the existence and aims of the sponsoring organization. Forty-five persons had knowledge--mostly partial--about development activities in the village; only 23 knew about Project sponsored activities in other villages. The Village Level Worker had met 59 people, but some of them did not know that he represented the Community Development Project. He had sought active cooperation of only 48 of the persons interviewed. The activities for which such cooperation was sought were: agricultural extension (24), village sanitation (32), irrigation (8), other works (10). Only 45 persons could mention some of the innovations recommended by the Village Level Worker. These related to three main fields: 13 people knew about suggested improvements in agricultural practices, 21 were aware of programs in the field of public health and sanitation, and 11 could list programs in other fields.

In Tyagi Village, out of a sample of 117 persons 74 had heard about the Project, 43 had not. Only 21 persons had attended meetings or functions organized by the Project. Almost all the persons who knew about the Project had at least a partial knowledge about its activities in the village, 51 people had some knowledge about its activities in other villages also. Ninety-three people had met the Village Level Worker, but many of them did not know of his connection with the development project. He had sought the active cooperation of only 24 people. Area-wise cooperation was sought in the following fields: sanitation (13), agricultural improvements (1), irrigation

(5), and shramdan and other activities (25). Forty-nine persons in this sample could not mention any innovations recommended by the Project; 37 people knew about the village sanitation program, and 33 had some information regarding Project activities in the field of animal husbandry and cattle care. Eighty-six people knew about improved agricultural practices; although some of them had no knowledge of the existence of the Project itself.

VI.

The process of communication has been identified in one sentence as who says what to whom, how, with what effect. Between the originators of ideas, innovations, and programs and the audience to whom they are addressed, there are significant factors of content, method, and mechanism. The ultimate outcome of the process-- what effect? --is determined as much by certain cultural factors as by the intermediate factors of communication. In the context of societies like the one to which this study refers the factors as well as the process and results of communication are governed and influenced by the cultural predisposition, cultural screens, and processes of cultural adaptation in the community to which the message is addressed. An understanding of these factors is of vital significance for the successful implementation of the development program.

There is considerable evidence to suggest that the effectiveness and acceptance of a program of change are controlled to a very great degree by the cultural predisposition of the community toward the sponsors of change and their agents, as well as toward the media, and form and content of communication. The initial response and ultimate acceptance--full or partial--of the extension agents are both governed by this factor. The degree of effectiveness with which these extension agents can operate as opinion leaders or as agents preparing the ground for change is determined largely by the predisposition of the community in which they operate. People can grasp certain themes and symbols more easily than others, and they respond more readily to certain kinds of appeals than to others.

An innovation is rarely accepted by the community in the form in which it is presented or for the purpose it is intended by the promoters of change. It is subjected to a regular process of cultural screening at different levels, by the elite, the informal groups and factions, and the leaders of caste and kin groups. In passing through so many filters it often changes form and meaning. Even on the level of common villagers it is not accepted without comment and discussion. For example, construction of sanitary wells and model sanitary repairs to old wells were a part of the general program of village sanitation and public health organized by the Project. The idea was to make provision for clean and hygienic drinking water for the people. In accepting this program the motives of the people were different. The well-to-do people contributed toward it because they wanted to oblige the Village Level Worker and other Project officials by cooperating on a project which could be shown to visiting outsiders to impress them. The Harijans were enthusiastic about it because they wanted to enhance the prestige of their group by having something bright, new, and impressive. Construction of a well added to their sense of achievement. This is an instance of a program accepted and set targets met, but its hygienic significance was largely lost on all sections accepting it. An innovation may mean different things to different groups, and may be accepted at different levels for altogether different reasons. For example, in conception shramdan was to be a voluntary and democratic movement of village self-help in which all sections of village people were to contribute their labor to nation-building works. To the village elite it appeared simply as a program of mobilizing labor from the village; it was voluntary only in the sense that no one was to be paid, and democratic in the sense that leader-politicians of the village were directing it. The leader-politicians found in these drives an opportunity of asserting their important position in the village. The rich and influential agriculturists also joined it. In view of their status they regarded token participation--a symbolic gesture rather than real work--as their legitimate share in it. The bulk of physical labor fell to the lot of low-income and low-status groups, i.e., sections who actually work as laborers. Under indirect pressure from officials and village leaders they

did most of the work but were sorry to have lost the day's wages because of it.

Finally, these innovations are invariably adapted to the cultural norms and patterns and are not bodily incorporated. The revival of the Panchayats was motivated primarily by the desire on the part of the government to create a machinery of village self-government. Ideally it was expected that this institution would work along the lines of the legendary village Panchayats in which the democratic consensus of village people decided all issues, and village norms, caste norms and a few well-remembered precedents had the force of law. Yet the institution, democratic in conception and not foreign to village traditions, was adapted by the people as an instrument to rework the power alignments in the community. Through it the dominant families and factions attempted to stabilize their position, rival families and factions wanted to assert their claims, and the hitherto under-privileged groups sought to make a bid for gaining a position of power and influence in the community.

The Community Development Project tried to work largely with the conventional tools of democracy, and tried certain media of communication that were alien to the experience of the common village folk and had no place in their culture. Its success was most pronounced where it used the idiom, symbols, and language of the people. In the final analysis the problems of communication in rural community development are those of adapting the agents of change, the media of communication, and the form and content of communication to the culture, value system, attitude, and world view of the community. The degree of its success will depend upon the Project's success in recognizing the existing channels of communication, anticipating the culture-directed responses of the people, and in adapting the communication program to them.

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CHANGING CONSUMPTION IN INDIAN GUATEMALA*

1. The Problem

The Indians of Guatemala are among the economically underdeveloped peoples, popularly called "backward" and "unprogressive" and by implication static or at least slow to change. Whatever justification may lie in such appellations, as regards the total resulting society, it should not be inferred that individual Indians are less prone to change than individuals in faster changing societies.

Change in an individual is a function of alternatives presented to him; and when given realistic choices, nothing in my experience with Indians indicates that they are slower than we are to accept the ones which seem to them to be in their interest. The difference is of course in the alternatives presented; and if in contrast to us, Indians have changed little from one generation to the next, a sufficient reason is that (in the same contrast) few acceptable novelties are presented. The moral of this observation is that one should not speak of people as conservative, or use the term progressive as a personal characteristic, until it can be demonstrated that they are averse to accepting alternatives that are clearly (and by their own definition) advantageous. I have never seen this demonstrated and must assume that Indians in Guatemala are in this respect no different from people in New York, and that to alter consumption patterns one need only make available new alternatives that from their point of view are worth the cost.

It is the purpose of this paper to show that consumption patterns of the Indians of Guatemala do change in expectable ways, provided one's expectations do not violate this rule, and to show why they do not change more.

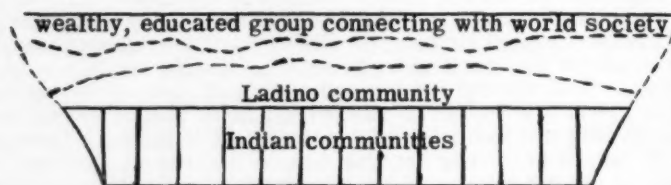
2. Ladino Society and Indian Communities

When the Spaniards conquered Guatemala in 1524 they found a population of perhaps a half million Indians, divided into principalities cross-cut by a division into classes of rulers and priests on the one hand, and peasants, laborers, artisans, and burden carriers on the other. The conquerors destroyed the native rulers and substituted themselves for the aboriginal priestly and ruling classes; the Indian masses retained their position under new masters, and their population has about quadrupled.

Geographic heterogeneity has always required or encouraged a regional division of labor. Exchange aspects of the pre-Columbian economy (trade, markets, and some money) were intensified with the introduction of new crops and industries. Nineteenth-century introduction of coffee, and twentieth-century contacts with an industrializing world, have in the past 85 years brought about some new changes and some acceleration of old trends. But there remain two groups of people in Guatemala: (1) the Indians living in self-consciously distinct small endogamous communities with broadly similar cultures, and (2) so-called Ladinos--cultural descendents of the Conquistadors and European colonists--a class-divided population of "Guatemalans," to and through whom elements of world culture are transmitted. Although the upper class of Ladinos has always recruited new members from abroad, the Ladino group historically has been re-

*The author wishes to express thanks to June Nash for help, and particularly for supplying original data from the village of Cantel.

cruited from Indians who leave their Indian societies and take on Ladino language, culture, and social identification. Individuals and sometimes whole communities cease being Indian and become "Ladino." "Racial" barriers are of little or not importance.



It needs to be emphasized that genuine cultural differences are recognized by Ladinos and Indians alike. Ladinos think of Indians as backward but also as mysteriously different, living in a different world; Indians see the Ladinos as different rather than superior, and generally have no thought or desire to change their own ways to those of Ladinos. Indeed each local Indian community is conscious of its own uniqueness, and sees neighboring Indian communities as having not only different customs and ways--which they have in very minor degree compared to the difference between Ladinos and Indians--but even different biologies. It should be clear that the differences between Indian and Ladino are not only great, but by Indians are exaggerated. One need not expect easy or automatic emulation of Ladinos by Indians, except in the cases of individuals who have changed their allegiance and perspective.

3. Ladino vs. Indian Patterns of Consumption

Ladinos have higher incomes than Indians and in all respects have a higher level of living. They presumably have a higher rate of saving, invested in both large landholdings and larger businesses; the Indians do not use banks, but all except the poorest save up enough money through the months to buy clothing in season, to take care of small emergencies, and to take occasional opportunities to add to their land. I have no direct data comparing family savings, however, and must leave them out of account. The following is a rough summary comparison of Indian and Ladino consumption of food, clothing, and housing.

Food¹

Indians maintain their pre-Columbian dependence upon corn (maize), fresh and dry, the latter generally softened by boiling with lime, ground and made into a variety of gruels, tamales, tortillas, etc. Corn is the staff of life, eaten at all meals. Yellow corn is the most popular. Dry (especially black) beans are second in importance, and are in general simply boiled. Sweet cassava, and chile, salt, and a number of native herbs and greens are used. Squash is important, generally sweetened for a dessert. When meat is eaten it is generally beef (original European). Chickens (European) and turkeys (native American) are feast and special foods; chicken eggs are fairly commonly eaten. Sea foods, white bread (European) and honey are eaten in Holy Week. Coffee and low-refined sugar (both European) are part of the daily diet. Hot chocolate (native American) and white sugar are mainly ceremonial foods. Distilled liquor (grain and sugar cane) has replaced the native fermented corn and fruit beverages; it is not part of the household economy. Men and women alike smoke cheap bought cigarettes in small quantity, usually only on occasions.

Ladinos eat the corn foods of the Indian diet, prepared in the same ways, but add wheat bread and rice to their everyday diet. They too eat beans and chile, and a larger variety of spices and vegetables. They eat beef, pork, mutton, chicken, turkey, and eggs, and add dairy products--milk, cheese and butter. They use lard and flour in cooking; they fry, roast, and oven-bake foods, with

¹ Differences in diet between Indians and Ladinos are summarized in Table 2, below.

complex recipes. Ladinos use coffee, but also tea and chocolate commonly. They use brown but also white sugar, and cakes and candies, fairly commonly. They drink the same hard liquor as Indians, add beer and wine, and smoke more cigarettes and occasional cigars.

Clothing

Ladinos in cities and towns wear the changing fashions of European clothes. In the country shoes and neckties are neither always common or ever extraordinary, but clothing of men, women and children is of the generic European type. Rural men often wear white cotton drawers (calzones), sometimes with sashes. Women generally wear one-piece dresses. Men always wear hats--Stetson felts to local straws. There are class differences in clothing, but these are not regional or local.

Every Indian community is distinguished by the costume of its people,¹ always also distinguishable from those of Ladinos. Among Indians, a costume belongs to a town, and each town has its more or less strikingly distinctive male and female costumes, most parts of which are home woven or at least locally tailored. (The children wear replicas of adult costumes). Even in areas where the differences are minor, the unique elements are symbolically important. One cannot speak of Indian clothing when the garments, the materials, the forms and the designs (and also the costs) vary from community to community. Yet some generalizations are possible: Indians do not wear shoes; they wear sandals or go barefoot. Indian men do not wear neckties even where they use shirts and jackets; men always wear sashes, even where they also wear belts. Women always wear skirts (generally wrap-around), untailored blouses (huipiles), and woven sashes--never dresses. Men generally wear woven headpieces, and if they wear straw hats they use both. Neither men nor women wear European-style underwear, hose, or nightclothes. An Indian and Ladino farmer both wearing calzones (which a few Indian towns permit) may look alike at work; but their Sunday bests will differ, and the clothing of their women always will.

Houses

The house of a Ladino characteristically has several rooms surrounding a patio. It has walls of adobe (sun-dried) bricks plastered inside and out, and roof of baked clay tiles (or corrugated metal) or, among poorer rural people, grass thatch. There are wooden doors, and windows of glass, with shutters. The floor is of clay tiles or wood. In the house are tables and chairs, bedsteads, raised fireplaces or iron stoves with chimneys. Kitchen utensils are generally enamelware, and there are also china dishes and some table cutlery. Where available, Ladino homes generally have electricity; otherwise, kerosene or gasoline pressure lamps. City and town houses, depending on wealth, are fine and well-furnished according to the fashion, with lighting fixtures, appliances, linens, and the like.

Indian house types vary with communities, though there is considerable overlap.² In some Indian communities the houses are like those of Ladinos except that they are not plastered and do not have windows or floors. In others the house is made of mass-adobe (mud-filled canes) or simply cane, with thatched roofs. Poor rural Ladinos may live in the type of house used by the Indians of the region where they live, but even so they would tend to add windows (even if without glass). Indian houses rarely have electricity, and are lighted only by tin lamps, pitch torches, or the fire. Indian houses often have bedstands, with boards for the bed (rarely if ever springs and mattresses); whether on the dirt floor or a platform, Indians usually sleep on mats, with blankets. Pillows, sheets, and the like are not used. The Indian home uses mainly pottery vessels for cooking and serv-

¹ The costume of one such Indian community, Panajachel, is described in detail in Sol Tax, Penny Capitalism: A Guatemalan Indian Economy, Washington, 1953; see particularly pages 150-154; 158-162; 201-202. See also L. M. O'Neale, Textiles of Highland Guatemala, Washington, 1945; and L. de J. Osborne, Guatemala Textiles, New Orleans, 1935.

² Penny Capitalism contains extensive descriptions of Indian housing in Panajachel; see particularly pages 143-147; 154-158; 199-200. See also Robert Wauchoppe, Modern Maya Houses, Washington, 1938.

ing, though there is some enamelware. Table settings are rare; indeed, eating is rarely done at a table.

However much or little overlap there may be with respect to some items, Ladinos and Indians have different ways of life, including different characteristic patterns of food consumption, costume, houses, and furnishings. From 430 years of experience it becomes evident that contact with Ladinos (or European patterns) does not cause Indians to lose their ways including their tendency to maintain local distinctions; though Indians and Ladinos have adopted important elements each from the other, two distinct patterns continue to exist. The lessons to be learned from this history are therefore (1) that Indians have indeed changed their consumption patterns and have incorporated many novelties, and (2) that they have nevertheless maintained a total pattern distinctively their own.¹ The evidence appears to be that the major changes occurred in the first generation after the 16th century conquest, and that the new pattern crystallized early and has maintained itself since with relatively minor changes. It seems easiest to explain this history on the hypothesis that alternatives were presented in large numbers when the Spaniards first came, that the Indians adopted many, and that in the ensuing hundreds of years few new alternatives appeared. Colonial Guatemala settled down to a fairly stable set of Indian cultures coexisting with an equally stable Ladino culture.

4. Resistances to Diffusion

With the general improvement in communications of the past fifty or seventy-five years, in which Guatemala has in some degree shared, there appear to be increasing numbers of alternatives available to Indians. It is easy to imagine that Indian patterns will be destroyed; one tends to forget in such short perspective that the Indians were highly selective in their original adoption of Spanish items, and reinterpreted and fitted them into a distinctive Indian pattern; and one should guess that the same process will continue. On the contrary, it seems that because Ladino culture is part of the mainstream of the world culture to which we belong, and because Ladinos are politically dominant, many of us assume that there is an inevitable shift from Indian to Ladino ways. The fact is simply that although Indians all continue to adopt some elements of the outside culture, and many Indians have changed their ways completely (and their identification) an essentially Indian culture still commands in Guatemala more adherents than did the Indian culture of 1520. The Indians of Guatemala are not to be thought of as a disappearing remnant, but two million people living in Indian communities with stable cultures different from neighboring Ladinos. Although individual Indians do become Ladinoized, it should nevertheless not be assumed that Indians who are exposed to and who can afford them will adopt Ladino consumption patterns.

In middle class American society the average outlay for clothing is more for women than for men. Yet nobody supposes that a man who can afford to do so will change to feminine costume. In Guatemala the way of life of the Ladino on the average is certainly more costly than the way of life of the Indian. But no more than in the first case does this mean that if the income of the Indian is raised he will adopt Ladino ways, and for similar reasons.

Items of consumption are often less important as useful objects than as symbols. American costume, for example, is most important as conventional identification with a status in society. In Guatemala, where there are several societies, a change in consumption pattern which is interpreted as signalling a change in group identification can and will be made only when the major shift of identification is already accomplished. Houses and clothing are particularly visible, and have become important symbols. If an Indian becomes financially

¹ In *Penny Capitalism* (esp. pp. 19-27) there is a fairly detailed discussion of the limits of the inroads of European technology and material culture on the Indians of the region.

able to wear shoes he will not do so; if he can afford a Ladino style house he will not build one if for no other reason than it is Ladino style.¹ I shall not belabor the point that generally speaking a change of identification is required before such changes in consumption occur. But in a deeply cross-cultural situation a change in social identification means crossing a chasm that is deep and wide; the Indian who has become a Ladino is transformed into quite a different person, in way of thought as well as way of life. This generally comes about only when accidents of circumstance bring the Indian into a Ladino environment in early childhood. The Indian becomes Ladinoized first, and by circumstances not related to will or to ability to pay. Then he (and more so his children) having already changed their identities (so to speak) can and will adopt the accompanying symbols. It is only then that financial ability to support the symbols becomes relevant. But then we are no longer talking about Indians, but about economic differences among Ladinos.

Even when a difference is not a symbol of social identification, there are resistances related to the cultural difference. There are innumerable important differences of taste. For example, Indians are not fond of milk; or although they like white bread, they look upon it as we do cake, and far prefer their corn foods as a steady diet.

Beyond the symbols of identification, taste, and custom, there is another obvious impediment to change in consumption pattern. The Indians don't know how to live in the manner of Ladinos. It is a somewhat risky analogy (pun not unattended) for me to suggest that if I should wish to change to feminine attire I should have to be taught a great deal about nail polish, lingerie, garter belts, and the like; and I should suffer a considerable period of bodily discomfort. Similarly with a change from Indian costume, housing, or diet. For example, what would happen if an Indian housewife should fall in love with--say--angel food cake? She has never used an oven, or beaten the white of an egg. The idea of a cookbook is foreign; she cannot read; but if she could she would understand none of the terms of the recipe. Where would she begin? Or does one suppose that adult Indians putting on shoes for the first time will be comfortable, or safe? Outsiders are fond of prescribing shoes for Indians--to avoid hookworm, or simply to be respectable. But when they put on shoes, and it rains, they are likely to get pneumonia because they have neither the shoes nor the knowledge to change to dry ones. Shoes are a symbol; so an Indian won't wear them; they also cost money; they also go with socks and a whole way of life unknown to Indians. Surely no one expects simply a few per cent increase in income to turn Indians into Ladinos.

I have been talking about changing consumption patterns in the sense of adding new items of consumption. It is easy enough to show (e.g. for food) that Indians do not add new items, or change from what they have to something that Ladinos have, simply because they have been exposed to the novelties and can afford them.² Absurd as the contrary seems, it is an assumption that appears to govern much of the behavior of well meaning outsiders, who wish to bring knowledge and opportunity to Indians and become discouraged and angry because Indians won't do what is--in the view of the outsiders--obviously good for the Indians.

¹ The resistance of wealthier Indians to adopt Ladino-type housing is discussed in Penny Capitalism. I note that "The richer Indians could certainly afford to plaster their adobe-brick houses; they do not. They could afford windows which they do not have. They could have raised fireplaces (as the government demands) and do not. And so on. They lack such things not because they are unfamiliar with them--for Ladino homes that they frequent have them--but because they do not want them." (Penny Capitalism, p. 200).

² Of course some items in the Ladino pattern are cheaper than equivalent Indian items--often true with costume, for example.

5. Changes Within Indian Patterns

But because Indians for understandable reasons do not readily give up what suits them for what does not suit them, it is frequently concluded that they are slow to change. Of course this does not follow logically; indeed it comes mainly from the conceit of the fool who imagines that only a fool would not wish to be like himself, but is willing to concede that the other person may only be a bit slow. This is a fairly general European fallacy and not a universal characteristic of people. In fact these very Indians of Guatemala take for granted that people and cultures are and can remain legitimately different. Probably this is one reason why they are able to maintain their local differences. The fact is that Indians are not at all slow to change. But to see this one must first accept their own pattern of needs and tastes, and then examine minor changes within that pattern, or changes in the proportions of various items. Several facts emerge:

First, it appears that as Indians become richer they tend to use more of everything--not only more of the more expensive goods, but more of everything--larger houses (Table 1), more corn as well as more meat (Table 2), and more pots and mats and blankets, and so on. It is as though the extra income is needed to bring the family to a point where changes are possible. But the facts also suggest that the Indians like what they have and simply want more of it. This is clear with the goods which are also symbols, but it is also evident in the case of foods which are all within the traditional Indian diet. The proportion of expensive protein food increases; but since the amount of corn does also, it is evident that Indians like more meat but they like it with even more corn.

Moreover, the influences of industrialization seem to flow in the same direction. Information recently collected in Cantel, and Indian community in Western Guatemala which has for eighty years been the site of the largest textile mill in Central America indicates that while Cantel factory workers are in most respects intermediate between farm Indians and Ladinos, they still remain quite within the Indian pattern.¹

Second, not only is it the case that Indians tend to use more of everything as they become richer, but change itself is not at all slow. Changes in costume in Panajachel are illuminating to this point. There are virtually fashions in both men's and women's costumes, with a dynamic corresponding to that in our own society.² Furthermore, the changes over a generation are at least as great

¹ Manning Nash, Cantel: The Industrialization of a Guatemalan Indian Community, Ph.D. Dissertation, University of Chicago, Chicago, 1955.

² Fashions among the Indians of Panajachel are indicated in the following table (adapted from Table 85 of Penny Capitalism) which illustrates the relation of wealth to costume.

Men's and Women's Costumes in Panajachel

Costume	Average Cost	Poorest quarter	middle-poor quarter	middle-rich quarter	richest quarter
		Percentage			
Men's old-fashioned, newer and modern.	\$ 5.26	52.7	57.2	49.2	61.3
Women's simple Panajachel	10.01	77.4	62.5	44.0	60.5
Men's Fashionable	6.27	37.7	24.5	40.7	30.7
Women's Silk and Elaborate	11.41	7.5	18.8	38.0	35.8
Men's City	4.62	9.4	18.3	10.2	8.0
Women's S. Andres and Totonicapan	6.92	15.1	18.7	18.0	3.8

TABLE 1

Living Space of Ten Panajachel Households

Family Order Number	Number of "Adults"	Number of rooms	Square feet of space				Square ft. room space per "adult"
			Total	Yard	Porches	Rooms	
3	4.5	5	2,035	1,000	153	882	196
5	7	3	2,610	1,350	120	1,140	163
15	¹ 6	4	1,913	900	104	909	¹ 151
19	4	2	2,583	1,620	120	843	210
28	2.5	4	1,227	432	30	765	306
37	2.5	3	986	324	133	529	212
94	4	1	798	576	---	222	55
95	8	1	1,182	900	---	² 282	² 35
108	2.5	1	230	90	24	116	46
109	6.5	1	263	-----	---	³ 263	³ 40

¹Servant not counted.²Projected house not included.³House under construction included.

SOURCE: Sol Tax, *Penny Capitalism*, Table 82. The ten families are a sample of a total of 133 graded, from rich (No. 3) to poor (No. 109).

In Cantel the occupational difference appears to be associated more with changes in clothing than in housing or food, as evidenced in the following material, provided by June Nash, according to information gathered by her.

The factory worker wears more expensive clothing and replaces them more frequently. The agriculturalist wears his clothing until they are threadbare, and then patches them to get another year's use. The older factory worker still wears the banda, which is more typical of Indian-ness than any other feature of Indian clothing, but he has adopted the use of undershirts and undershorts, items which the agriculturalist wears less frequently, and if at all, usually only the latter. A younger factory worker for whom complete data were collected, wears a belt, and has even affected shoes and socks. He spends an even higher amount on clothing (\$51.23 as compared with the \$44.55 of the older factory worker).

With respect to women and girls:

The wife of the agricultuarlist spends less than 1/3rd on clothing as the wife of the factory worker. The latter is able to indulge herself somewhat because she sews and sells aprons to factory employed women, and is able to make for herself clothing somewhat cheaper. The woman who is herself employed and living away from her parents can indulge herself the most, spending \$81.00 for her clothing. Women's clothing is about twice the cost of men's since they retain the traditional skirt handwoven in Salcaja and Totonicapan costing from \$4 for the simplest to \$15 and \$20 for the multicolored silk pieces. The chief item introduced into women's clothing is the sweater, which is not common among adult women, but is frequently worn by little girls.

TABLE 2¹
Per Capita Weekly Consumption
in Rural Guatemala
(in grams)

ITEM *	POORER		RICHER	
	Indian	Ladino	Indian	Ladino
milk	26	231	37	637
cheese	22	70	63	148
cream and butter	-	1	-	19
beef	114	143	182	264
pork	50	145	62	129
fowl	9	6	57	94
deer, goat, rabbit, etc.	-	-	-	17
fish	10	64	16	6
crabs, shrimp, fator, etc.	5	-	10	-
eggs	21	41	41	129
lard	7	32	11	78
beans	345	301	395	390
misc. leguminious, oleagenous seeds	9	8	12	11
chile	60	35	63	64
tomato	78	135	93	163
squash	123	53	237	21
vegetable pear	88	196	114	210
onions and garlic	50	77	58	71
vegetables and herbs	207	150	234	190
citris fruit	22	140	135	78
bananas and plantains	128	403	62	175
avocado	13	17	27	60
peaches, plums, etc.	28	70	33	114
potatoes	35	75	48	161
sweet potato and <u>ichintal</u>	6	11	11	-
maize	3301	2598	3931	2937
wheat bread and flour	17	77	64	206
rice	22	69	21	105
oats, rye, etc.	-	1	3	4
low-refined sugar	193	233	233	204
white sugar	17	64	22	134
molasses, honey	-	-	-	2

*Some economically important items such as coffee were not tabulated because not important from the point of view of nutrition.

¹The figures listed in Table 2 are the results of a 1943-44 survey of food consumed in eight representative Indian, and four Ladino communities in rural Guatemala. The survey was planned and directed by the writer for the Carnegie Institution of Washington. Field personnel included Antonio Goubad Carrera, who later became director of the National Indianist Institute of Guatemala, and Juan de Dios Rosales, the present director. The results are in process of tabulation by Dr. Emma Reh of F.A.O. and the Instituto de Nutricion de Centroamerica y Panama. The data given here are preliminary.

Table 2 is arranged so that if (as is not unlikely) the wealthier Indians and the poorer Ladinos have about the same income, the limits of the effects of increased income can be judged. The poorer Ladinos and richer Indians in fact consume about the same amounts of protein foods (including beans) except for dairy products, perhaps the clearest case of the operation of the cultural factor. Lard, squash, cassava, rice, and white sugar are other cases where customary differences evidently outweigh equal ability to buy. The Indian

in degree as among us. The change from skirts to shorts, or slacks, among our women, is certainly striking; but no less striking as the change among Panajachel men from the large black woolen overgarment to the bright red shirt and knee-length light blue skirt over long drawers. (Yet both are Panajachel costumes, not duplicated elsewhere). Especially in a small society where costumes are uniform and symbols of identity one might expect a greater "conservatism."

Third, it seems that like us the Indians operate in terms of a complex of competing values, but the results are different partly because their ordering of the values is different from our own, and partly because the arena in which the values compete is different. The Indians live in small communities, where harmony and the good opinion of others is deemed necessary to life. Indeed, the Indians believe that without good relations with nature, with the supernatural, and with fellow men, health breaks down, prosperity is lost, luck is bad. Yet in a small society pretty much at a bare subsistence level, with a competitive economic system, it is impossible to rule out envy and the fear of envy; or accusations of greed, and the fear of such accusations. An Indian to whom fortune offers new alternatives must steer the old yet always new course between his individual needs and interests and those of the society, and must do so in a small community where all neighbors watch and where all are neighbors. The Indians respond to the challenge in part by establishing extraordinarily formal and impersonal social relationships, in a different way as stand-offish as (by reputation) are the privacy-seeking inhabitants of a London club. But they also respond to pressure by changing the proportions of their expenditures. In brief, they increase their expenditures for clothing and housing (as well as food) both for the pleasure of it and because miserliness is shameful; but much more than this they increase their contributions to religious, ritual, and community needs. Rich people take the more expensive obligations, and take them oftener. Indeed they sometimes become impoverished on this account! This is the respect in which consumption can be conspicuous and also legitimate and safe. This could be considered a way of redistributing wealth except that in the process so much is consumed in the form of alcohol and perishable food that there is a considerable net loss; so although the rich man may go broke, no Indian gets a corresponding advantage.

preference for beef and fowl, and that of Ladinos for pork is also not due to price (pork is higher than beef, but cheaper than fowl) (but to cookery: beef is better in soup; Ladinos use pork in a variety of dishes which Indians do not make. With respect to bananas and plantains (the latter are large, coarse, and inedible except cooked) a pure price interpretation would force on to conclude that Ladinos can afford them better than Indians, but with increases in wealth both groups drop them from their diet!

A difficulty with the more general study is that differences between communities are hidden. Perhaps the Indians in each community change much more with wealth than is indicated, but since they are all different the lumping of the eight communities may mask the truth. I doubt if this is the case, since Indian food customs are pretty general. Another difficulty is that a seven day sample in a rural area dependent on seasons is necessarily faulty. For example, Indians do use honey, but chiefly during Holy Week; Easter would have been a poor week to get diets, but the only one likely to correct the Indian consumption of bread, honey, seafood, etc. Results of the Panajachel and Cantel studies provide necessary supplementary data on the year round Indian diet (and on some items like coffee that were not calculated by FAO) and on how the diet changes with a rise in income. The general conclusions are strengthened by these data--increase in wealth does not mean a switch to a Ladino pattern of food consumption, but instead a general increase in all items consumed by poor Indians and special increase in high protein foods (beef, turkey, chicken, etc.) which because of their high cost are not everyday foods. There is also some decrease in cheap starchy foods and some cheap vegetables.

The relation of increased wealth to nutrition unit consumption among six Panajachel Indian families is summarized also in Table 84 (p. 201) of Penny Capitalism.

A second somewhat legitimate but more dangerous way to change his pattern of consumption is to add to savings in the form of land, obtained either by purchase or as a pledge for money which has been lent. The difficulty here is that land only makes one richer and increases the pressures and the dangers. But land is highly valued in the community, and having much brings genuine respect and prestige. Since the landowner must hire field hands he has opportunity to be generous in pay and conditions of work, and again he responds to pressure by yielding part of his wealth or income.

As one examines the data from Cantel, where an important factory has long operated in an Indian community like Panajachel, one has the overwhelming impression that Indians change easily as much as they need to in order to adjust to a changed environment, but that their own culture is both tough and resilient and not only does not fall to pieces, but follows a sort of law of parsimony, readjusting to change with a minimum of disturbance to its essential pattern. It is quite possible that this capacity is unlimited, and that Indians could adjust to far greater changes than we imagine if circumstances could be interposed in such manner that they could pick and choose and freely feel their own way.

6. Conclusion: Economic Development

The changes that have occurred in Indian consumption (as well as technology and religion and social organization) at various times in the past 400 years and their present outlook on life suggest that it need not be difficult to increase radically their level of living, their rate of saving, and their potential for capital formation. What needs to be done is to help the Indians to produce more to enable them to put an increased margin to productive use. But the way to be helpful is to recognize first that we do not know the answers, and then to try to learn from the Indians what the answers are by offering them as wide a range of alternatives as our--and their--ingenuity permits. I have argued that change is a function of realistic alternatives available and that the "reality" of the alternatives is a function of the perception of the Indians--what from their point of view and in their situation seems good and feasible. This is not simply a matter of the cultural differences anthropologists are fond of pointing up--these exist as differences in tastes, values, beliefs, perceptions. It involves also the social situation in which every person finds himself; this in turn depends in part on the kind of person he conceives himself to be and what he perceives are the rewards and the penalties to himself of every alternative response. How in this circumstance can we expect somebody else to know and prescribe a solution to the individual? I take it that psychiatrists have long since pretty largely given up telling their patients what to do. But how much more difficult is it to prescribe for a community with its whole network of interacting perceptions, and particularly where the stranger from another culture cannot even understand what it means in this one to be a self-respecting person?

The conclusion I draw is not that we cannot help other communities of people, but only that we must keep them pretty largely on their own terms. To do this we must be prepared to learn at least as much from them as we bring to them. More than that we must come to them in the frame of mind that admits it can never understand all of the factors important in the situation, and so offers the widest variety of alternatives to see which might actually be suitable. I think of this analogy: I stand on a mountaintop and am about to empty a bucket of water over the edge, from where eventually it would reach the river below. I could now call in all sorts of wise men with their measuring instruments and their calculators and expect them to predict the exact course the bucket of water will take. Perhaps they would do fairly well; they might theoretically make a perfect prediction if they took as much time about it as would a monkey at the typewriter writing all the plays of Shakespeare. But if they were indeed wise men, I should expect at least one of them to suggest that we empty the bucket and let the water show the path, and then use our ingenuity to explain it.

Likewise there is a case for letting the Indians of Guatemala, or people anywhere else, work their own way to their own solutions, as we in our own his-

tory did ours. Our help then consists in working with them to provide the widest possible seemingly feasible alternatives: tools, new organizations, new markets, new items of consumption, new ideas. I am sure that the solutions developed by the Indians will surprise us. I shall close by recounting a single instance of an interesting and important change in an Indian pattern of consumption, which may make the point.

Among the Indians of Guatemala hard liquor plays a very important and on the whole perhaps destructive role. Some drinking, as among us, derives from individual and social disorganization. People drink because they shouldn't. Most of it however is the contrary: people drink because they should, and it is a symptom of a good rather than bad adjustment to society. Liquor is sacred and used ceremonially on every occasion of social and religious importance-- baptizing a child or a house; in courtship and marriage; at funerals; at planting and harvesting; in the inauguration of public officials; in some places even in the courtroom.

Expenditure for liquor for ceremonial purposes in Panajachel constitutes 4 per cent of all community expenditures including even the value of the Indians' labor and 11 per cent of all expenditures made outside the local community. All expenditures for clothing are less than four times as much; and for all housing and utensils and supplies and tools for home and farm, the Indians spend in cash only 60 per cent more than they do for liquor for ceremonial purposes. The social cost is much greater if one takes into account that Indians frequently continue to drink, to cure hangovers, and the loss in both time and money can be very large.

Each ceremony requires a quantity of liquor traditionally supplied by those in charge; Indians speak of an eleven bottle ceremony, a twenty-two bottle ceremony and so on. The social pressure is great to do right by the Saints being honored, and it is difficult to reduce the traditional amount. At least one village in Guatemala was once economically destroyed by the system; the influenza epidemic of 1919 reduced the population drastically but not the number or the quality of ceremonies. In consequence the community eventually lost most of its land to outsiders.

In a particular ceremony the practice is such that an individual has no alternative but to drink his share. The participants are arranged in hierarchical order; a boy with a bottle and a single glass starts with the highest ranking person, and in turn fills the glass for each, which must be drained at a gulp so that the boy can pass on to the next. This is repeated over and over to the end of the ceremony.

Needless to say well-meaning people have tried to devise ways of changing these customs. One thinks of substituting soft-drinks; but the Indians won't. And so on. After completing my studies in Guatemala I had occasion to live in an area of neighboring Chiapas, in Southern Mexico, with the so-called Chamula Indians, who are closely related to those of Guatemala. Here the Indians have very similar customs; indeed they seem to use liquor in even more ceremonial contexts than in Panajachel. They have the same method of passing from one person to the next a single glass.

But there is one little change. In Chamula every man carries under his cloak an empty bottle and a little tin funnel. When he receives the glass of liquor he may either gulp it down or pour it into his bottle. The liquor in the bottle he can then use later to perform his own ceremonial obligations.

If I now had the task of improving conditions in Panajachel, I think I would want to take a number of the Indians from thence to visit the Chamulas in Chiapas, with the thought that they might be as intrigued as I with the solution of the funnel and introduce it in Panajachel. But it would be illusory to expect that the new technique would actually be successfully transferred. And if the Indians did not take it up, I would be foolish indeed to think of the result as a failure, or to blame the Indians for not taking what I now think is a good alternative. If I were able to discover why Panajachelenos rejected it I would of

course see why it wasn't a good alternative after all--and never had been, even when I thought it was.

But by this method and with this attitude I would expect to find the Panajachel Indians developing some solution that would be suitable, just as the Chamulas developed this one. In brief, the hypothesis on which I operate is that developing communities need the freedom of the marketplace and a good display of merchandise from which to choose, and no salesmen.

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THE INDUSTRIAL REVOLUTION AND ECONOMIC GROWTH: THE EVIDENCE OF EARLY BRITISH NATIONAL INCOME ESTIMATES*

For those concerned with problems of current economic policy in newly developing countries the lessons of past experience in industrialization have especial interest. A study of the early stages of economic growth whereby the industrialized countries of the world achieved their present relatively high standards of living might be expected to throw some light on the growth process itself.

Unfortunately there is a great dearth of quantitative data on these early stages of industrialization. For most countries the statistical data required for an interpretation of the characteristic changes in industrial structure and standards of living do not begin to be available until the process is in full swing. The crucial initial stages which might throw some light on how and why the process began at all and what contributed to its acceleration or retardation when it was still in its infancy remain largely undocumented.

In a number of countries an attempt is being made to fill this gap as part of an international programme of study of long-term economic growth organized by Professor Simon Kuznets under the auspices of the Committee on Economic Growth of the Social Science Research Council. One of these countries is the United Kingdom which, as the first of the countries of the world to become highly industrialized, might be expected to provide a case history of peculiar interest. It is the purpose of this article to consider in particular the evidence of early British national income estimates in illuminating the process of the first industrial revolution.

It is generally accepted that the Industrial Revolution took place in Britain toward the end of the eighteenth century. That it had its roots deep in the past and that it initiated a continuous process of industrial change which is still not ended is also widely agreed. But there seems little doubt that toward the end of the eighteenth century Britain entered into a process of economic expansion which in character and pace was unlike anything previously experienced there or in any other country of the world. During the course of the nineteenth century Britain's Industrial Revolution spread to Western Europe and to Europe's overseas descendants in North America and Australia. In those countries which industrialized, real incomes rose with unprecedented rapidity and left the world average far behind. By 1949 according to calculations made by Professor Kuznets the inhabitants of the United States had average incomes which were more than six times the world average and in Western Europe it was more than twice the world average. For Latin America, on the other hand, per capita incomes were only about two-thirds of the world average and for Asia and Africa less than a quarter. The evidence suggests moreover that the gap between the industrialized countries and the unindustrialized countries of the world is still widening.¹

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¹ These calculations on world incomes were made by Simon Kuznets on the basis of data in W.S. and E.S. Woytinsky, *World Population and Production*, New York, 1953 (for 1938 incomes) and in U.N. Statistical Office, "National and Per Capita Incomes, Seventy Countries." Statistical Papers Series E, No. 1, October, 1950 (for 1949 incomes). The estimates were contained in the statis-

England Before the Industrial Revolution

In considering the genesis of this process of rapid industrialization, it is of some interest to study the characteristics of the economy which first gave rise to it. The material is incomplete. It is inevitable that the records of economic advance or decline should be more scanty for the pre-industrial phase of a country's history than for its period of industrialization. However, there exists for England at the end of the seventeenth century a set of national income estimates by Gregory King which give a picture of the economy as it was nearly a hundred years before the machine age began.¹ Table 1 presents a national product account derived from this source.

TABLE 1

National Income and Expenditure of England and Wales in 1688
After Gregory King: in rounded percentages
of the national income.

1. Income payments		3. Personal consumption	96
(a) Rents	27	4. Government expenditure	5
(b) Wages and salaries	37	5. Less indirect taxes	-6
(c) Profits, interest and mixed income	36	6. Domestic asset formation	4
		7. Exports	10
		8. Less imports	-9
2. National income at factory cost	<u>100</u>	9. Expenditure of national income	<u>100</u>

It will be seen from Table 1 that by the end of the seventeenth century England had already developed a fairly complex exchange economy. Some idea of the extent to which specialization of labor had taken place can be seen from the fact that more than a third of the national income was distributed in the form of wages and salaries. In a highly industrialized economy the proportion attributable to compensation of employees is usually two-thirds or more and is certainly more than 50 per cent. But in very backward areas the proportion may be less than 10 per cent. This is true, for example, of present-day Nigeria or the Gold Coast: in Uganda it is about 19 per cent; and in Japan the proportion seems to be about a half or rather less than a half.²

By the beginning of the eighteenth century therefore England was a country with a settled agriculture and a variety of handicrafts. More than half of its national income was derived from non-agricultural activities. King's estimates for the output of agriculture suggest that not much more than 40 per

tical appendix to "Toward a Theory of Economic Growth," a paper given at Columbia University's Bicentennial Conference on "National Policy for Economic Welfare at Home and Abroad" in May, 1954.

¹ Gregory King's estimates, published in *Two Tracts by Gregory King*, [George E. Barnett, ed., Baltimore, 1936], give most of the material for a set of social accounts for 1688. These accounts are set out and discussed in detail in my article on "The Implications of Early National Income Estimates for the Measurement of Long-Term Economic Growth in the United Kingdom," *Economic Development and Cultural Change*, IV, No. 1 (November, 1955).

² See U.N. Statistical Office "Statistics of National Income and Expenditure," *Statistical Papers Series H*, No. 8, 1955, for the data on the national income of present-day economies.

cent of national income was attributable to agriculture,¹ and an analysis of the trade statistics for the three years 1697-1701 has suggested that more than 80 per cent of English domestic exports were manufactured goods and more than 70 per cent of retained imports were foodstuffs and raw materials.² By contrast the proportion of national income attributable to the agriculture, forestry, and fishing group of industries in some under-developed countries, today is more than 50 per cent. In Nigeria for example it is about two-thirds and in India more than 50 per cent.

The statistical evidence that England had already achieved an appreciable level of economic development by the end of the seventeenth century is of course supported by more general data on its economic life. This was the Age of Reason in economic as well as in academic activities. More than a hundred new inventions were formally patented in the last decade of the century. In the same decade the Bank of England was founded and London already had a developed capital market.

That this development was a relatively slow process, however, is illustrated by the very low proportion of national income devoted to capital formation. It may be that the proportion of 4 per cent is an underestimate in that it omits corporate saving, but this could not have been an important fraction of total saving at that time. King's estimates lend some support therefore to Professor Arthur Lewis's contention that the distinguishing mark of a backward economy is a rate of saving of only 4 or 5 per cent per annum.³

The Early Stages of the Industrial Revolution

At the beginning of the eighteenth century Britain's economy was probably almost stagnant. Within the next hundred years something happened to turn it into an expanding economy. Exactly when this happened it is difficult to say on the existing evidence though a more detailed analysis of trade and excise statistics might enable us to phase the process more adequately than is at present possible. The only general economic indices covering the whole century are the trade statistics at the official values (i.e. at constant prices). These are shown in Table 2 together with corresponding population figures.⁴

It will be seen from Table 2 that as far as the population figures are concerned the impression of stagnation lasts until the middle of the century. Then a persistent--and in some decades a very marked--expansion begins,

¹Gregory King, *op. cit.*, pp. 36-37.

²Ralph Davis, "English Foreign Trade 1660-1770," *Economic History Review*, New Series I, No. 2, December, 1948. These proportions are of course dependent on the system of classification adopted by Mr. Davis and the line between semi-manufactured raw materials and manufactures is inevitably somewhat arbitrary. It should be noted moreover that most of the imported foodstuffs were manufactured or semi-manufactured commodities.

³W. Arthur Lewis, *The Theory of Economic Growth*, London, 1955. See for example p. 225 where he says that, "communities in which the national income per head is not increasing invest 4 or 5 per cent of their national income per annum or less, whilst progressive communities invest 12 per cent or more."

⁴The 18th century population estimates are from John Brownlee "History of the Birth and Death Rates in England and Wales," *Public Health*, June-July 1916. Trade figures are three-year averages centering on year specified, derived from the series published by contemporaries (Whitworth, Moreau and Macpherson). They include re-exports. Being at official values, (i.e. largely at constant prices) they constitute a rough volume index of imports and exports respectively.

accelerating toward the end of the century. Over the twenty years following 1741 the increase was at the rate of 5 per cent per decade; by the twenty years ending in 1811 it was at the rate of 12 per cent per decade. A similar picture of accelerating expansion emerges from the trade statistics though in these there is evidence of an improvement beginning before the middle of the century and a slump in the early seventeen eighties. It is in the last two decades that the expansion appears to be sustained by forces of quite a different order to any that had emerged in earlier centuries. National income estimates made in 1770 by Arthur Young suggest that agriculture still accounted for more than 40 per cent of the national income at that date but that manufactures accounted for 21 per cent.¹

TABLE 2

English Population and Trade in the Eighteenth Century

	Population millions	Exports 3 year average £m.	Imports 3 year average £m.
1701	5.8	6.0	5.3
1711	6.0	6.4	4.4
1721	6.0	7.5	6.1
1731	5.9	8.4	7.3
1741	5.9	9.1	7.2
1751	6.1	12.6	7.9
1761	6.6	14.4	9.4
1771	7.1	15.9	12.8
1781	7.5	11.5	10.8
1791	8.2	21.3	17.7
1801	9.2	36.5	29.0

Of this more than a third consisted of miscellaneous manufactures, including rural artisans (blacksmiths, wheelrights, etc.) mainly concerned with supplying agriculture.

By the time Young made his national income estimates, i.e. in the 'seventies there had already been, according to his interpretation of events,

¹ Arthur Young's estimates suggest 45 per cent as the proportion attributable to agriculture. This is more than King's estimates suggest for 1688. There is no doubt that Young tended to overestimate the value of agricultural output by comparison in the other forms of economic activity but the possibility that the relative contribution of agriculture actually increased between 1688 and 1770 should not be ruled out. See my article on "The Implications of Early National Income Estimates, etc."

a marked improvement in real incomes.¹ If we accept his view we should date the beginning of rapid expansion from the 'fifties. In 1774 he wrote: "Let any person consider the progress of everything in Britain during the last twenty years. The great improvements we have seen in this period, superior to those of any other, are not owing to the constitution, to moderate taxation or to other circumstances of equal efficacy ever since the Revolution, as the existence of these circumstances did not before produce equal effects. -- The superiority has been owing to the quantity of wealth in the nation which has in a prodigious degree, facilitated the execution of all great works of improvement."²

Young did not analyze the causes of the increase in wealth (which he seems to have regarded as equivalent to an increase of money in circulation) but he did describe its inflationary effects in making money easy to raise, in increasing demand and in raising prices.³ If we look for the causes of this mid-century boom we may find some of them in the cumulative effect of an increased demand for English exports, already reflected in the trade figures by 1751 (see Table 2) and of the unusually long run of good harvests which characterized the half-century following 1715.⁴ Whatever the causes there seems to be good reason to suppose that there had been a distinct improvement in the economic environment by the middle decades of the century. Malthus wrote, for example, that: "During the last forty years of the 17th century and the first twenty of the 18th, the average price of corn was such as, compared with the wages of labour, would enable the labourer to purchase, with a day's earnings, two thirds of a peck of wheat. From 1720 to 1750 the price of wheat had so fallen, while wages had risen, that instead of two thirds, the labourer could purchase the whole of a peck of wheat with a day's labour."⁵ Adam Smith took a similar view: "In Great Britain the real recompence of labour, it has already been shown, the real quantities of the necessities and conveniences of life which are given to the labourer has increased considerably during the course of the present century."⁶ And again referring to the "national progress of England towards wealth and improvement" he writes that: "The annual produce of its land and labour is, undoubtedly, much greater at present than it was either at the restoration or the revolution."⁷

¹ Arthur Young, *Political Arithmetic Part I*, London, 1774, p. 52. "This better living consists in the people consuming more food, and of a better sort: eating wheat instead of barley, oats and rye--and drinking a prodigiously greater quantity of beer."

² *Ibid.*, p. 49.

³ *Op. cit.*, p. 37, p. 52 et passim.

⁴ C.f. Thomas Tooke, *A History of Prices*, London, 1838, pp. 38-61. See, for example, p. 39: "In this long interval of 50 years, there appear to have been only five seasons which, whether by inference from prices, or by historical notice could be considered as of a marked deficiency of produce or in any way approaching to what could be designated as seasons of scarcity." And at p. 60: "This long period of great abundance and consequent cheapness of the prices of provisions, was one which appears to have been attended with a great improvement in the condition and habits of the great bulk of the population."

⁵ T. R. Malthus, *Principles of Political Economy*, 2nd ed., London, 1836, p. 228.

⁶ Adam Smith, *The Wealth of Nations*, Modern Library, New York, 1937, p. 200.

⁷ *Ibid.*, p. 327. In this connection c.f. also the conclusion of Thomas McKeown and R. C. Brown in "Medical Evidence Related to English Population Changes in the Eighteenth Century," *Population Studies*, IX, No. 2, November, 1955; that "Improvements in the environment are therefore regarded as intrinsically the most acceptable explanation of the decline of mortality in the late eighteenth and nineteenth centuries."

In this favorable economic environment industrial inventions of which the textile inventions were the most numerous and spectacular in their immediate effects--flourished. By the end of the century industrialization was generating its own momentum. In 1774 it was still so feeble that Young, the champion of agriculture, wrote that he preferred an economic policy which encouraged industry and commerce rather than agriculture because "trade and manufactures are children of more sickly and difficult growth; if you do not give them active encouragement they presently die."¹ By 1814 Colquhoun was confident that "the extensive capitals, skill and experience which British manufacturers have acquired" were such as to "allay all fears or apprehension of any injurious competition in the foreign market, provided the improvements shall continue as heretofore to be progressive."²

Between these two dates there had been a major change in the character and the direction of the British economy. The change in structure is reflected in the national income estimates suggested by Young's and Colquhoun's calculations respectively. Table 3 summarizes the estimates derivable from Young (for England and Wales) and from Colquhoun and later Pebrer (for the United Kingdom). They are very rough and they involve some arbitrary interpretations of estimates which the authors left inconsistent or inexplicit.³ It is likely that the estimates based on Young somewhat overemphasize the contribution of agriculture and that the estimates based on Colquhoun understate the agricultural proportion. But even with these qualifications we should deduce that in this period the contribution of agriculture fell from over 40 per cent to under one-third and that the contribution of industry rose from about one-fifth to over one-quarter. By the later date factory industry was beginning to predominate over handicrafts and cotton had replaced wool as the major British industry.

An interesting feature of the estimates derived from Colquhoun is the relatively high proportion contributed by commerce (distribution, transport and finance). If the three sets of estimates are reasonably consistent (and the Pebrer estimates were designed by their author to be consistent with Colquhoun's) this result implies a temporary increase in the share of commerce during the early stages of the Industrial Revolution. This is a hypothesis that requires further checking but it is conceivable that toward the end of the Napoleonic wars the merchant class was enjoying an abnormally high share of the national income and also that costs of transport and insurance were unusually high under war conditions. By 1831, it would appear from the estimates summarized in Table 3 that manufacture (including mines and building) accounted for more than a third of national income and also that the industrial basis of the economy had broadened considerably. Apparently mines and mineral manufactures accounted for more than 4 per cent of the national income in 1831 compared with about 2 per cent in 1812; and hardware accounted for over 3 per cent according to the 1831 estimates whereas in 1812 they had been valued at only about 1 1/2 per cent. By 1831, according to Pebrer, the iron industry accounted for about a fifth of the value of mines and mineral manufactures, and was worth four times the value put upon it by Colquhoun for 1812.

¹Op. cit., p. 298.

²P. Colquhoun, A Treatise on the Wealth, Power and Resources of the British Empire, 2nd ed., London, 1815, p. 68.

³See my article on "The Implications of Early National Income Estimates, etc." for a more extended discussion of Young's and Colquhoun's estimates and the adjustments required to make them conceptually consistent and complete. See also Phyllis Deane, "Contemporary Estimates of National Income in the Nineteenth Century, I," Economic History Review, VIII, No. 3, April, 1956, where estimates are derived from Colquhoun for Great Britain only: these suggest about 25 per cent for the contribution of agriculture and over 30 per cent for manufacture.

Since Young made his estimates, the output of pig iron had probably increased more than tenfold.¹

TABLE 3

The Structure of National Income 1770-1831
As percentages of the total national income

	1770 England & Wales (After Young)	1812 United Kingdom (After Colquhoun)	1831 United Kingdom (After Pebrer)
Agriculture	45	27	28
Manufacture (including mines and building)			
Wool	4	4½	3
Leather	3	3	3
Flax, hemp, glass, earthenware	1½	4½	3
Cotton and silk	1½	6	7
All other	11	12	19
Commerce	13	20	15
Miscellaneous other	21	23	22

SOURCES: Estimates for 1770 from Arthur Young, *Political Arithmetic*, Part II, London, 1779; add Northern Tour, 1770. Estimates for 1812 from P. Colquhoun, *A Treatise on the Wealth, Power and Resources of the British Empire*, London, 1815. Estimates for 1831 from P. Pebrer, *Taxation, Expenditure, Power, Statistics and Debt of the Whole British Empire*, London, 1833. But see my article on "The Implications of Early National Income Estimates, etc." and "Contemporary Estimates of National Income in the Nineteenth Century" for details of the way in which the estimates were built up from these sources.

If we consider what was happening to the level of incomes in the early stages of the Industrial Revolution we find that the evidence is scanty and imprecise. That there was some increase in real incomes during the first six or seven decades of the century seems fairly certain. The passage quoted above from Malthus implies that in terms of their potential wheat purchase, average real incomes of laborers increased by about 50 per cent. A comparison of Young's and King's estimates suggests that average real incomes rather more than doubled between 1688 and 1770. There appears to have been no other considered estimate of national income made between these dates although a broadsheet by Joseph Massie gave average income estimates for different classes of the community and made calculations containing implicit estimates of the

¹ H. Scrivenor, *History of the Iron Trade*, London, 1854, gives estimates of 17,350 tons for the output of pig iron in 1740; 68,300 tons for 1788; and 678,417 for 1830.

numbers in each class.¹ Massie's calculations were made in an attempt to expose the exorbitant gains of the owners of sugar plantations rather than with the design of estimating aggregate incomes either for particular classes or for the nation as a whole. His estimates of average income were in no way essential to his main argument and it would be unwise to assume that he had considered them at all carefully. However, for what they are worth they suggest an average income of about £42 per family or about 30 per cent above King's estimate of £32 at a slightly higher level of prices. Massie did not estimate total population so that we cannot convert his data to a per head basis.

Table 4 summarizes the estimates of average national income available for four points of time--in 1688 about a century before the Industrial Revolution is generally thought to have begun, in 1770 just before the first great textile inventions and the steam engine were patented, and 1800 and 1812 when the process of industrialization had certainly begun. The estimate for 1812 is for Great Britain rather than England and Wales and is accordingly slightly lower than the comparable English average.

TABLE 4

Estimates of Average National Income Derived from
Contemporary Sources 1688-1812

Year	Population	Average money National income	Price indicators for Consumers' goods. Five year averages Based on the Gilboy- Schumpeter index 1700-1 = 100
England and Wales			
1688	5.5	8.7	99
1770	7.0	18.5	108
1800	9.1	21.9	186
Great Britain			
1812	12.3	26.8	217

SOURCES: For the national income estimates see "The Implications of Early National Income Estimates, etc." and "Contemporary Estimates of National Income in the Nineteenth Century." For the basic price index see E. B. Schumpeter: "English Prices and Public Finance, 1660-1822," *Review of Economic Statistics*, XX, No. 1, February, 1938; the figures in this table are five year averages centering on the year specified. The pre-1800 population estimates are Brownlee's estimates, *op. cit.*: from 1801 onward Census of Population data were available.

¹ I am indebted to Mr. Peter Mathias of Queen's College, Cambridge, for drawing my attention to this source. Massie's estimates of "annual incomes or expenses," "money exorbitantly raised on each family" and "money exorbitantly raised in all families" are contained in a broadsheet entitled A Computation of the Money that hath been Exorbitantly Raised upon the People of Great Britain by the Sugar Plantations in One Year from January, 1759 to January 1760. The classes apparently correspond to those distinguished by King

As has already been emphasized these national income estimates are extremely rough and cannot be used to support any precise quantitative analysis. In particular the Young estimates on which the 1770 figure is based are probably overestimates. Moreover the price indicators constitute a very unsatisfactory reflection of changes in the value of money. But in spite of the qualifications that are necessary in interpreting these estimates the most interesting feature of the evidence remains unaltered. It suggests that most, if not all, of the advance in average real incomes which had been achieved between the end of the seventeenth and the beginning of the nineteenth century had been achieved by 1770, before the Industrial Revolution had well begun. In the last three decades of the eighteenth century, that is in the period which saw the unmistakable beginnings of rapid industrialization the rate of increase in average real incomes was apparently negligible, if indeed there was not a positive decline.

Much more research will be necessary before we can measure actual rates of growth or decline for this period. The evidence strongly suggests, however, that the beginning of industrialization in Britain followed a period of rising real incomes and was accompanied by a phase of falling or stagnating incomes. It would seem as if a long period of good harvests and expanding foreign markets precipitated an expansion of population and industry during which the growth in total output was insufficient to keep pace with the rise in population and the rise in money incomes was nullified by the fall in the value of money.

This is not to deny that the British economy was expanding at a faster rate under the impulse of industrialization than it had ever done before. The volume of foreign trade per head of the population (imports plus domestic exports at official values) apparently increased by an average of about 13 per cent per decade in the four decades before 1760 and by about 17 per cent in the last four decades of the century. Before 1720 the rate of increase was not more than about 5 per cent per decade. Domestic exports per head actually rose at a somewhat faster rate in the four decades before 1760 than in the four following decades.

In absolute terms and in particular branches of manufacture, however, the expansion accelerated to a remarkable extent toward the end of the eighteenth century. The growing industries--of which the textile industries were the leaders--entered into a new phase of expansion in the seventeen eighties. The cotton industry, which was the most spectacular example, expanded its imports of raw material tenfold in three decades. Printed goods charged to duty in the decade ending in 1779. Other industries followed at a more modest pace but for most of these for which data are available the general quickening was unmistakable.¹ For tallow candles, for soap, for coal shipments into London, and for British spirits and strong beer, for example, the 1790-99 averages were all between a quarter and a half above the 1770-79 averages. By the beginning of the nineteenth century the output of British industry was probably 50 per cent to 100 per cent above its volume in 1770.

This was certainly a remarkable rate of increase but industry probably accounted for no more than a quarter of the total national income by the end of the eighteenth century. Meanwhile the 1801 population was some 30 per cent above

but a comparison of the averages for each class suggest that there were unexplained differences in definition and a study of the distribution of incomes implicit in Massie's calculations throws a doubt on the internal consistency of his estimates.

¹ Cf. Walther G. Hoffmann, *British Industry 1700-1950*, London, 1955. Hoffmann's index suggests that the real value of industrial output roughly doubled in the last thirty years of the century for this period his index was almost entirely based on data for the textile industries and on London's receipts of coal; and the rate of growth for all industry was probably less than these series would suggest.

the 1771 population and the proportion of adults was probably falling.¹ Only if there had been a substantial increase in the productivity of non-industrial activities--and particularly of agricultural and commercial activities--could this expansion of population and industry have been accompanied by an appreciable improvement in average real incomes.

Another factor which may have put some brake on the rate of economic growth in the early decades of the Industrial Revolution was the effect of the Revolutionary and Napoleonic wars. The evidence on this point is by no means conclusive but it seems fairly certain that war was a retarding factor. According to Hoffmann: "The period 1793-1817 may be regarded as a break in a period of particularly rapid industrialization."² A contemporary observer looking back over the war period took the view that the average level of real incomes rose at the commencement of the war, stagnated during its second half, and fell sharply during the postwar period.³

If there was no great improvement in the average standard of living during the early stages of British industrialization there were important changes for some sections of the community. The skilled and semi-skilled operatives in the new factories found their money incomes rising--sometimes faster than the level of prices. There were full-time jobs in factories for many women and children who formerly had few opportunities of adding to the family income except in seasonal agricultural labor or irregular domestic spinning. For workers who were displaced by machines on the other hand and for peasant farmers squeezed by enclosure into the position of day-laborers employment was often difficult to obtain and earnings lagged behind the rising cost of provisions. In effect there was a considerable change in the distribution of incomes both as between industries and occupations⁴ and as between different classes of society.

There seems also to have been a perceptible increase in the inequality of incomes since before the Industrial Revolution. King's estimates of the average earnings of different social classes suggest that in 1688, 92 per cent of the families (i.e. families earning £50 and less) earned 63 per cent of total incomes. According to a similar set of estimates made by Colquhoun for 1803, 92 per cent of the families (i.e. families earning £150 and under) earned 56 per cent of total incomes.⁵ A comparison of the results class by class confirms this impression that the rich had grown relatively richer and the poor relatively poorer over this period, though the evidence does not indicate whether the change occurred after rapid industrialization began, or in the first six or seven decades of the eighteenth century.⁶

¹ Cf. T. H. Marshall, "The Population Problem During the Industrial Revolution," [E. M. Carus-Wilson, ed.] in *Essays in Economic History*, London, 1954, p. 321. We know that population began to increase rapidly about 1780 and continued to do so, at an accelerating pace, till 1820, with a high birth-rate and a falling death-rate, particularly among infants.

² W. G. Hoffmann, *op. cit.*, p. 32.

³ Joseph Lowe, *The Present State of England*, London, 1822. See "Contemporary Estimates of National Income in the Nineteenth Century" for a discussion of Lowe's analysis and its relation to other estimates and assessments for the period.

⁴ Cf. T. S. Ashton, *An Economic History of England: The 18th Century*, London, 1955, p. 234. "It would seem that the difference in pay between skilled and unskilled increases" and p. 235, "The divergence of experience between skilled and less skilled explains how honest observers could differ as to whether things were getting better or worse for labour at this time."

⁵ P. Colquhoun, *Treatise on Indigence*, London, 1806, p. 23.

⁶ Massie's estimates, *op. cit.* ought to give some indication of this but are unsatisfactory. They give a somewhat implausible picture of the income distribution

In sum, therefore, it would seem that the early stages of the industrialization of Britain were characterized by important changes in the structure of the national product and a rate of population growth which outstripped the growth of real output. It is possible that the average standard of living actually fell during this phase. Probably also there was an increase in the inequality of incomes accompanying large shifts in the distribution as between industries and occupations and still other shifts as between types of income-receiver which were a consequence of the war-induced inflation. It seems likely also that war and immediately post-war dislocations in agricultural and commercial activities prevented industrialization from proceeding as rapidly as it might otherwise have done during the first two decades of the nineteenth century.

The Process of Rapid Industrialization

It was in the third, fourth and fifth decades of the nineteenth century that industrialization gathered its fastest momentum. According to Hoffmann's calculations the industrial economy of the United Kingdom grew at an annual rate of between 2 and 3 per cent per annum in the period 1793-1817, between 3 and 4 per cent in the period of 1818-1855, between 2 and 3 per cent in the period 1856-1876, and by less than 2 per cent in the period 1877-1935.¹ Between 1801 and 1851 exports of United Kingdom manufactures at constant prices (official values) increased between 7 and 8 times. Manufactures accounted for more than 90 per cent of United Kingdom exports by 1830. Exports which had been about 5 per cent of national income at the end of the seventeenth century had risen to over 10 per cent at the beginning of the nineteenth century, to over 13 per cent in the middle of the century, and to over 20 per cent by 1870. Retained imports exceeded a quarter of national income by the eighteen seventies and rose to their peak of nearly a third in the eighteen eighties.²

By the middles of the century half the population of Great Britain was urban and over a quarter of the nation's staple foodstuff was grown abroad. It has been estimated that Britain was then responsible for over 40 per cent of the world's supply of manufactures.³ The price of bread (and hence the poor man's purchasing power) was still, however, largely determined by the state of the harvest.⁴ Agriculture was still the most important industry in terms of numbers employed in it, absorbing more than a quarter of all men of twenty years old and upward in Britain in 1851.⁵ In terms of net value added it probably accounted for rather less than a quarter but the proportion was falling fairly rapidly. In the middle of the "Golden Age" of British agriculture (1867-9) it was probably under 17 per cent of the total national income,⁶ and by 1883 Gif-

in 1759 and suggest that the lower 92 per cent (i.e. those families earning under £ 100) received only 45 per cent of total incomes.

¹ W. G. Hoffmann, *op. cit.*, p. 31.

² See E. A. G. Robinson, "The Changing Structure of the British Economy," *Economic Journal*, LXN, No. 255, September, 1954, for a discussion of the increasing dependence on foreign trade.

³ By E. A. G. Robinson, *ibid.*

⁴ Cf. J. H. Clapham, "Work and Wages" [S. M. Young, ed.] in *Early Victorian England*, Oxford, 1936, p. 4. "It was not merely that bread prices fluctuated with the harvests . . . but that these fluctuations affected the whole rhythm of economic life of the country."

⁵ Cf. J. H. Clapham, *An Economic History of Modern Britain*, II, Cambridge, 1938, p. 23. "Judged merely by numbers, the industry which came next to agriculture was domestic service."

⁶ I am indebted to Mr. J. R. Bellerby of the Agricultural Economics

fen's estimates attribute only about 15 per cent of British national income to agriculture. For 1835-40, Giffen had estimated agricultural incomes at 29 per cent for Great Britain and 65 per cent for Ireland; for 1883 he gave a proportion of about 15 per cent for Great Britain and 51 per cent for Ireland.¹ By the eighteen seventies Britain could fairly be described as an industrialized economy. If, as we have seen, the process of rapid industrialization began in the last three decades of the eighteenth century the whole process appears to have taken about a century to reach this stage.

Table 5 presents some of the evidence which can be derived from a study of the contemporary national income estimates for the nineteenth century. These estimates are still very rough but they are very much more numerous than the eighteenth century estimates and this in itself makes it possible to lay more weight on them. It is not only that we have been able to check the estimates and their constituents against each other and thus to gain some idea of the margins of error involved: it is also that those making the estimates were more fully informed on the conceptual and statistical problems than their eighteenth century predecessors and that they were writing for a better informed audience. The estimates summarized in Table 5 are by no means all those that were made in the course of the nineteenth century, but they include all that were made on the basis of fairly careful consideration and for which enough documentation was given to permit an assessment of their worth.

Study of the estimates in Table 5 suggests that average real income showed a tendency to fall in the Napoleonic wars, had begun to rise slowly by 1822, and rose apparently abnormally in the following ten to fifteen years, possibly because the removal of the war-time brake on progress enabled the economy to make a temporary spurt. There seems to have been a tendency for real incomes to decline in the forties--a plausible result for the period that historians have named the "hungry forties"--a renewed rise at mid-century followed by a slight decline in the sixties and then a sustained rate of rapid growth lasting until the last decade of the century. From then on the rate of growth began to decline although the economy did not cease to grow. By the end of the century the main impetus of the Industrial Revolution seems to have been spent.² The economy was still growing but at a decreasing rate.

In effect, the rate of growth suggested by these figures averaged under 14 per cent in the first half century and about 20 per cent in the second half century rising to over 26 per cent in the last three decades. But whereas the rate fluctuated up to 1870 it was steadily high for the rest of the period. Within this century population increased two and a half times and average real economy quadrupled.

For those countries now at the beginning of industrialization two indicators of interest stand out from these national income estimates. The first is that it should have been so long--about seventy years after the economy began to expand rapidly--for average real incomes (and presumably standards of living) to double in the United Kingdom. The second is that the most rapid and sustained growth in average real incomes did not come until the process of industrialization was in its advanced stages. Indeed there is evidence that the early stages may have been characterized by a decline (which was probably exaggerated by the burden of a major war) and that there was a further period during which the rate of

Research Institute, Oxford, for an estimate of the net output of agriculture at this period. For estimates of total national income see "Contemporary Estimates of National Income in the Nineteenth Century."

¹R. Giffen, *Essays in Finance*, 2nd Series, London, 1886, pp. 461-65. Cf. the estimate derived from Pebrer of 28 per cent for the United Kingdom as a whole.

² See Simon Kuznets, "Retardation of Industrial Growth," 1929, reprinted in *Economic Change*, New York, 1954; and *Secular Movements in Production and Prices*, New York, 1940, for a discussion of the factors which tend eventually to make for a decreasing rate of growth in real product.

growth tended to fluctuate somewhat sensitively in response to wars and harvests.

TABLE 5

Contemporary Estimates of the National Income of the United Kingdom in the Nineteenth Century

Year and derivation of national income estimates *	Population millions	Average money national income £	Domestic exports as percentage national income	Estimate of trend in average real incomes 1800 = 100
1800 (Pitt, Beeke, Bell)	15.7	19	13	100
1812 (Colquhoun)	18.4	22	10	94
1822 (Lowe)	21.3	17	10	114
1831 (Pebrer)	24.1	23	7	174
1836 (Mulhall)	25.4	24	8	168
1841 (Spackman)	26.8	21	11	145
1846 (Smee)	28.0	21	10	160
1851 (Levi)	27.4	23	13	193
1860 (Mulhall)	28.8	33	14	234
1867 (Levi, Baxter)	30.4	28	21	205
1870 (Mulhall)	31.3	31	22	222
1879-80 (Levi)	34.3	35	18	274
1880 (Mulhall)	34.6	33	19	278
1882-83 (Levi)	35.2	36	21	296
1883 (Giffen)	35.5	36	18	307
1886 (Mulhall)	36.3	34	18	326
1889 (Mulhall)	37.2	35	19	342
1895 (Mulhall)	39.2	36	16	402
1902 (Giffen)	41.9	42	16	405

*See Contemporary Estimates of National Income in the Nineteenth Century for a discussion of the bases of these estimates.

There is, of course, no reason to suppose that the pattern of economic growth for countries whose process of industrialization is now taking place or is about to begin will follow the pattern of nineteenth century Britain. The structural shifts, the pace of development and the population changes may all assume trends which vary widely from British experience. For Britain the path of industrialization was a totally new one and the world context in which it pursued this path differed both politically and economically from the modern context.

Unfortunately we do not have historical series of national income data for

the newly developing countries of the present day and it is difficult therefore to assess the speed and direction of their economic growth. All that we have is a certain amount of data on their current economic structures and this is of very limited value in indicating the character of their development. Table 6 lists some of these data as at mid-twentieth century for a selection of countries at an early stage of economic development.

If we measure economic development by the proportion of national product attributable to the manufacturing, mining and construction group of industries, of the countries listed in Table 6 only Portugal seems to have reached a level of industrialization comparable to that of Britain in 1831. However, if we measure the advance by the proportion of national product earned in non-agricultural activities three of the Latin-American countries (Argentina, Chile and Mexico) and Japan come into this category. Each of these countries has apparently shifted resources out of agriculture into the transport and distributive and miscellaneous industries. Indeed the movement from agriculture into the tertiary industries seems to have taken place in a large proportion of the newly developing countries for which data are available. Only in the obviously pre-industrial countries with about 40 per cent or more of their national product derived from agriculture and in some of the older semi-industrialized countries of Europe is this not so; and for several of the pre-industrial countries the remarkably high share of the national product attributable to public administration and defence is another sign of the times. For Britain in its early stages of industrialization the average peacetime proportion attributable to government was 3 or 4 per cent. The 1812 figure was abnormally high in that it represented the culmination of a long-drawn-out war effort. Even so, Adam Smith, writing in 1775, maintained that: "The profusion of government must, undoubtedly, have retarded the natural progress of England towards wealth and improvement."¹ Whether the pre-industrial economies of the twentieth century will find their growth retarded or assisted by the "profusion of government" which most of them enjoy, remains to be seen.

A further study of the national income data available² for newly developing countries reveals other respects in which the twentieth century examples seem to be assuming a different shape to that taken by late eighteenth and early nineteenth century Britain. There appears, for example, to be a relatively larger expenditure on capital formation in many pre-industrialized economies and a relatively heavy dependence on foreign trade. If their internal economies are not so highly developed as the England of Gregory King's time they have a limited access to the capital market of a more highly organized world economy and to the administrative skills common in industrialized countries. In many countries still at an early stage of economic development the share of corporate incomes is higher than was the case in Britain at a comparable stage of development and this no doubt contributes to a higher rate of capital formation.

On the face of it, it looks as if a new pattern of economic growth were appearing in the newly developing economies of today. It may be that the process of rapid growth and average real income can be initiated at a much earlier stage of general economic development than that reached by eighteenth century Britain. The export of raw materials to already industrialized countries may finance trade and industry designed for the home market. An early increase in the volume of resources devoted to transport and distribution may assist in creating an environment in which productivity in agriculture and industry can grow at a pace which was not open to pre-industrial Britain. An increased measure of government planning and corporate activity in the private sector may increase rather than retard this pace.

Unfortunately these hypotheses are based on very inadequate data and require detailed examination before they can be regarded as more than very

¹Op. cit., p. 327.

²U.N. Statistical Papers, Series H., New York, 1955.

TABLE 6¹

The Structure of National Product for Countries
at an Early Stage of Economic Development.
As rounded percentages of national product.

	Agriculture, Forestry, Fishing	Manufacture, Mining, Construction	Transport and Distribu- tion	Public admin- istration and defence	Miscell. other
<u>South America</u>					
Argentina	19	28	26	11	16
Brazil	34	19	20	7	20
Chile	17	30	21	9	23
Colombia	40	20	17	7	16
Ecuador	39	21	15	6	19
Guatemala	45	21	23	7	3
Honduras	54	12	15	4	15
Mexico	20	25	36	5	15
Nicaragua	41	25	15	6	13
Paraguay	51	19	14	5	11
<u>Africa</u>					
Egypt	31	11	22	13	24
Kenya	41	18	22	11	8
Nigeria	66	10	15	5	4
<u>Asia</u>					
India	51	17	16	5	11
Japan	22	30	25	6	17
Korea	48	15	11	11	16
<u>Southern Europe</u>					
Greece	38	24	17	8	13
Portugal	29	36	15	5	16
Turkey	52	16	17	8	7
<u>Early Britain</u>					
1770 (B & W)	45	21	13	4	17
1812 (U.K.)	27	30	20	8	15
1831 (U.K.)	28	35	15	3	19

SOURCES: Calculated from United Nations Statistical Papers, Series H, No. 8, "Statistics of National Income and Expenditure," New York, 1955. For British data see Table 3 above.

¹ These proportions should not be taken too literally. The output of many

tentative. What we need in particular are historical series of national income and their major components in real and money terms, not only for Britain and the countries which followed Britain's lead in the nineteenth century, but also for countries which have begun their process of industrialization in the twentieth century, and for those whose industrialization can scarcely be said to have begun. For some of the newly industrialized countries there will be records which may be used to construct such series. For others the data are not likely to exist at all and only through time will it be possible to trace their story of change and growth.

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economic activities which would be classified under the secondary or tertiary industries of an advanced economy are often indistinguishable in practice from the output of primary industries in an underdeveloped economy. Conversely the tertiary and secondary industries of a developed economy are often inflated by the inclusion of services which have some claim to be treated as costs rather than as final outputs. This means that the differences in distribution of national product as between developed and underdeveloped economies tend to be overstated and that these differences cannot be regarded as precise indicators of the degree of development.

AN EXPERIMENT IN FOODGRAIN PROCUREMENT: A CASE STUDY IN PLANNING IN AN UNDERDEVELOPED AREA

I. Introduction

In many underdeveloped countries, the danger of recurring food scarcity is one of the most important concerns of Government, and plans are constantly having to be made to anticipate or overcome famine. Relative shortages of consumer goods are characteristic of such countries, particularly at times of balance of payments difficulties, so that their governments are often unable to counteract the tendency of peasants to hoard grain when crops are poor by increasing supplies of articles like cloth, kerosene, oil, sugar, or household goods. Methods of compulsory procurement of foodgrains are therefore often tried, backed by legislation and the complicated apparatus of its enforcement, but experience shows that even in Communist countries in recent years, with all their equipment of authoritarianism, these methods are less successful in bringing in adequate supplies of food than in antagonizing the rural population and reducing the scale of future cultivation. The dilemma is especially noticeable whenever urban shortages of food become acute, because under strong public pressure the tendency of administrators is to devise more complicated controls, and to rely less on the price mechanism. Instead of concentrating on restoring or setting-up the conditions in which the price mechanism will work, they are notoriously apt to begin by fixing prices, in the consumer's interest, below the natural supply price, with the result that everybody increases stocks, there are no willing sellers, production is reduced and the risk of famine increased.

The purpose of this article is to examine the history of such an episode, which occurred in the summer of 1946, in the North-West Frontier Province (N.W.F.P.) of what was then India, but is now Pakistan. The writer, now a university teacher, was then employed in the Food and Civil Supplies Department of the N.W.F.P. Government, and has drawn to a large extent on the notes he made at that time. The story of this experiment is a case study both of the techniques of food procurement and in a wider sense of the political economy of the less developed countries. The analysis illustrates the special difficulties of planning in such countries whenever the controls used are inconsistent with political and social attitudes, or with existing economic forces, or rely on inadequate statistical data. The moral is, not that there should be no planning or administrative intervention on the market--for circumstances can make this both unavoidable and highly desirable--but that such intervention should be concerned with improving the market mechanism rather than with its displacement. Success can probably be achieved more quickly, and with less social distress in the end, by manipulation of the pricing system (which is too often "frozen" as a first step towards control) than by administrative controls like the direction of cropping or compulsory forms of crop disposal--though some combination of both approaches may be necessary.¹

There is nothing new in this conclusion, which is now commonplace in the literature of post-war planning in "advanced" economies. But it may be important to illustrate it in the context of experience in "backward" economies, since there is probably a natural time-lag in their adaptation of policy to new ideas, and they may sometimes be slow to learn to abandon policy shibboleths which have been discredited by experience in the countries that invented them.

II. The food problem in N.W.F.P. in 1946: the background to the procurement scheme

In 1946 the province of N.W.F.P. consisted of the six settled districts of

¹ It may be argued that recent changes of emphasis in Soviet agricultural policy provide relevant support for this argument.

Hazara, Mardan, Peshawar, Kohat, Bannu and Dera Ismail Ihan, with a population of just over three millions, of which the urban sector was little more than half a million. Another two and a half millions lived in tribal areas and political agencies not subject to the full processes of administration, and to a certain extent these numbers complicated the problem of food supply in the settled districts. In a year of poor crops, they could sway the balance converting the province into a deficit area; and the character and temper of its people (mostly Pathans) made that a serious situation for the Government of India, interested not only in the people's welfare but also in preserving the peace. The basic foodgrain of the people of N.W.F.P. is wheat (the chief spring crop), with maize (an autumn crop), and to a lesser extent barley and gram, playing a relatively important part in certain areas. Rice is not extensively cultivated, and is not a vital part of the diet.

Hazara (population over 800,000) and Kohat (roughly 300,000) were not usually self-sufficient in foodgrains, and certainly not in wheat. Bannu (300,000) and Dera Ismail Khan (300,000) in the arid south could produce useful surpluses in years of timely rainfall, but might have a serious local shortage if the crop was poor. Mardan (500,000), a fertile well-irrigated district in the north, with only one large town, was normally the granary of the province, exporting wheat on a large scale. In Peshawar (900,000) the situation was complicated, the very fertile irrigated area of Charsadda being offset both by the dry populous zones to the south and west of the district and the high proportion of the population that lived in towns (about one-third). There was a formal, fairly efficient system of foodgrains rationing, based on a household card system, in the capital city of Peshawar. Its supplies came almost entirely from imports authorized under the Government of India Basic Food Plan. In other urban centres, control over food distribution was much less rigid, and often ineffective.

It is important to emphasize that the 1946 crop was below average. This fact was known to the Revenue Department and widely commented on before the harvest, but in drafting the procurement scheme the Food Department chose to ignore its implications. It was in a difficult position, being forced to accept orders from Delhi that imports were to be cut, and on the other hand bound by the Government of India policy of strict price control on essential foodstuffs. This limited its field of manoeuvre in procurement strategy, and at the time seemed to force it to rely on compulsory deliveries as the best means of procuring bigger stocks for distribution. The poor crop in the southern districts and Hazara was largely explained by the failure of the seasonal rains, whose timely fall on unirrigated soil was essential for a good crop. But it is more difficult to explain in the northern districts of Mardan and Peshawar, where the wheat-lands were well-irrigated by the Swat and Kabul river canal systems. The trouble was a shift in cultivation from wheat to sugar-cane, and to a lesser extent to tobacco. For some years, sugar in India had been very scarce and strictly rationed, and very high prices were paid for gur, a rough substitute made in the villages by boiling the juice of the crushed sugar-cane. Thus not only was the acreage under wheat being reduced, but the quality of the land chosen for its cultivation was deteriorating, and it was being given less water, as more was diverted to the higher-priced cash crops. With wheat prices strictly controlled, and gur and tobacco prices uncontrolled, these results were inevitable (despite official exhortations to grow more wheat). But the full effects of the change were not admitted officially because much land now under cane was still recorded as under wheat. The explanation of this was simple: there was a higher water-tax (*abiana*) to pay on irrigated land used for sugar-cane or tobacco, and it paid the cultivators, and consequently many of the junior revenue officials, to make false returns. But no effort was made either to improve the accuracy of the crop-acreage returns, or to widen the differential in the water-tax. It might have been possible to restrict the export of gur to the Punjab, by setting up control points at the few crossing-places on the River Indus, but this was not tried. There had been an attempt to restrict the acreage under sugar-cane by legislation, but in the absence of effective measures of enforcement, this law became a dead letter. In the irrigated areas, wheat had ceased to be the cash crop: it was not grown primarily for domestic consumption, and zamindars were probably inclined to retain rather more for this purpose than if they had continued to cultivate it as their basic cash crop.

The political circumstances were exceptionally interesting in 1946. For historical reasons that do not concern us here, the government was in the hands of a Congress Party Ministry, to which the opposition of the provincial Muslim League party was growing more determined and effective as the strength and purpose of Mr. Jinnah's case in all-India politics became clearer. In the summer of 1946, there developed a non-cooperation movement aimed against the Ministry, which reached its climax in the spring of 1947 and forced the Viceroy to refer to a plebiscite the issue whether the province would become part of India (as the Congress party originally desired) or of Pakistan (as the Muslim League claimed). Inevitably this political struggle had a bearing on food procurement. The Muslim League found ample scope for complaint in the general economic condition of the province, and in spite of the declarations of both Mr. Jinnah and Mr. Gandhi that the food situation in India should not be dragged into politics, it did not hesitate to exploit the unwillingness of the big landowners of the northern districts to be compelled to hand over their wheat surplus at a relatively low price. In these districts the strength of the Congress (Red Shirt) movement had been based on the natural opposition of the landless or agricultural laboring classes to the party with which the big landlords were associated. Both intellectually and emotionally, therefore, the philosophy behind the Congress ministry was socialist, and it believed in controls and in an enlargement of the influence of the administration in economic affairs.

In the 1945-46 crop year, a procurement system based on the monopoly purchase principle (giving officially-licensed agents a monopoly of grain dealing) had brought in approximately 14,000 tons of wheat. For the crop year 1946-47 a minimum provincial target of 20,000 tons was adopted, although as we have seen the wheat crop was known to be below average and decidedly below that of 1945. This high figure was not a matter of choice, but followed from the deterioration of the all-India food position, which dictated a reduction in the province's dependence on imported supplies of wheat. Because the 1945 harvest had been good, it was felt that a more rigorous procurement plan could have secured even more than 14,000 tons. The clearest evidence in support of this theory was the failure to obtain more than about 600 tons from Mardan and Peshawar Districts, which together should have produced a much greater quantity than Bannu and Dera Ismail Khan Districts, where no less than 10,800 tons were collected. Accordingly, the 1945 Procurement Order was replaced by a Provincial Notification (No. 10210, dated 3rd April, 1946) which introduced the principle of the compulsory levy on the individual zamindar.¹ In the instructions to Deputy Commissioners² published at the same time, the targets set for Mardan and Peshawar Districts were 6,000 and 5,000 tons respectively, as compared with 6,000 and 4,000 for Bannu and Dera Ismail Khan. The total target figure for the Province was fixed at 23,000 tons, of which it was essential, in accordance with the Government of India's Basic Plan, to procure 20,000 tons if famine was to be averted. Moreover, from the information available in April, it seemed that the Provincial stock position would become unsafe unless 12,000 tons were procured by mid July.

To improve on the 1945 results by procuring over 6,000 tons more from a much poorer crop, the new weapon adopted by the Provincial Government was the service of a legal notice on the individual zamindar, ordering him to deliver a stated quantity of wheat not below fair average quality at the nearest official market at a stated price. Once a notice had been served on him the zamindar was bound in law to retain that quantity of wheat for delivery to Government. Machinery for lodging objections was provided, but the mere act of lodging an objection did not

¹ In N.W.F.P. a zamindar is simply a cultivator; the word literally means "landholder." The term carries no inference about ownership, as opposed to tenancy, nor about the size of holding.

² The officer of the Indian Civil Service or Indian Political Service in administrative charge of each district was called the Deputy Commissioner in N.W.F.P. In exercising his functions under the Land Revenue Acts his technical title was Collector: thus, he was the senior revenue officer of the district, responsible for the collection of land revenue, the principal form of tax on landowners.

release the zamindar from his responsibility to comply with the terms of the notice. The force behind the notice lay in the fact that it asked for what the Collector calculated to be the surplus produce of the land of the zamindar on whom it was served, and in so far as the calculation was based on the entries made in the Khasra Girdawaris (harvest inspection books), these entries were now given the same presumption of truth, in law, as is attached to entries in the Jamabandi (record of land tenure) under the Land Revenue Act. Yet the Jamabandi was a permanent record, carefully revised every four years and cross-checked by senior revenue officers, while the Khasra Girdawari was a more ephemeral document, less meticulously prepared, and inevitably less carefully checked in which the most junior and poorly paid revenue official, the patwari, entered details of changing crops, tenancies and ownership. This was an unsatisfactory basis on which to exercise new compulsory powers in the relations between the State and the individual.

By the end of June, nearly 4,600 tons of wheat had been procured, mostly in the southern districts,--more than twice as much as the receipts by the equivalent date in 1945,--and it looked as though 8,000 of the 12,000 tons required by mid July might be obtained. In view of the poor crop, this in itself would have been a notable achievement, but there was already reason for believing that the real state of affairs did not justify optimism, and in the first fortnight of July, the rate of intake fell off in the Southern Districts, so that by the crucial date of the 13th of July the total quantity procured was only 5,500 tons. The early success of the scheme in Bannu and Dera Ismail Khan Districts was largely due to the early maturing of the crop (owing to the lack of rain, which proportionately diminished the yield), and even before the end of June it was fairly obvious that in the traditional surplus areas of Mardan and Peshawar Districts the scheme was no more successful than the 1945 Procurement Plan, which had been much less objectionable politically. We are not here concerned with the subsequent measures of the provincial and central Governments to deal with the food situation in the province, but must proceed to analyze the reasons for the failure of the scheme itself.

III. The principle of compulsory levy: the assessment of the surplus.

The first thing to emphasize is that the 1946 Procurement Order was extremely complicated and involved a great deal of paper work. Although it was issued at the beginning of April, extra staff was not sanctioned in most districts in time to start work until June, and the intensive preparation for procurement did not start until near the middle of May. Generally speaking, this preparation was undertaken by subordinate revenue officials who had little opportunity to learn and understand the provisions of the new Order and whose training was in a different type of work (from which, indeed, they had not been released). Thus in several districts they made a bad start, although success could only be built on the accuracy and timeliness with which the initial work was accomplished. The first thing they had to do was to prepare the procurement notices, so that these could be served on the zamindars before they had a chance to dispose of their surplus wheat in separate transactions involving less than 20 maunds, which were not prohibited. Since the harvest, especially in the southern districts, was exceptionally early, many mistakes were made because the preparation of these notices was hurried.

In theory, the following factors should have been taken into account in estimating the surplus of the individual landholder:

- (1) Acreage under wheat.
- (2) Average yield per acre.
- (3) Requirements of the zamindar and his dependents for food, including a reserve for guests.
- (4) Seed requirements for next crop.
- (5) Wages of village laborers, paid in kind (men performing specialized

tasks for a number of zamindars, and also casual harvest workers).

(6) Requirements for payments in kind of religious tithes (zakkat or ushar).

From this analysis, it emerges clearly that the first essential in the preparation of correct estimates was an accurate crop inspection (girdawari); but the early harvest made this even less likely than in normal years, and subsequent examination proved innumerable cases of acreages sown with wheat being wrongly recorded. We have already seen reasons why this might occur in the irrigated areas of Mardan. Nor was there a sound basis for information about probable yields--at any rate for small units, like the land of a single village. If the estimate made at the periodic District Settlement was taken, the chances were that this was too low, for most types of soil, in a year of normal yield; but the zamindar would seldom admit the truth of this, and 1946 was a year of abnormally low yield. In any case, these estimates were made perhaps thirty years before, and their purpose was to guide the Collector over a long period in deciding appeals against assessment for land revenue--a very different criterion from that required to estimate the true yield in a single crop year. In fact, the instructions given to the procurement staff were to calculate output by multiplying the acreage recorded as "matured" at the harvest inspection by the Settlement figure for average yield. But the recording of "matured" and "not-matured" areas in the khasra girdawari was meant as a guide in cases for remission of land revenue, and might give a misleading idea of yield. For example, in the spring of 1946 there were persistent very dry winds, which lightened the grain of the early-matured wheat: but obviously areas so affected would not be shown as "not-matured" in the records. There was no way out of this difficulty. The Agricultural Department conducted crop experiments, but these were designed originally to give a rough estimate of the yield for the Province as a whole, and only in 1945 had they been improved to give estimates for each district. To estimate average yield in a much smaller area, as the preparation of individual notices required, would have involved the Agricultural and Revenue Departments in crop experiments on a scale far beyond their resources in trained personnel.

The other factors involved in estimating zamindar's surplus were no easier to assess. Food requirements could be measured accurately only by census enumeration, a notoriously difficult and time-consuming task in a population of this type. The revenue officers were certainly not trained enumerators, nor were they helped by the attitude of Government, which wished to discount requirements of grain for casual labor or guests or religious tithes. If a zamindar challenged his assessment because he had been given no allowance of grain for casual harvest laborers, it was no use suggesting that he pay them in cash instead of in kind. Nor was it prudent to suggest that the Pathan custom of offering more food to a guest than to a member of the household was wasteful, as administrative justification for keeping the estimate of this requirement to a minimum. The planning machine can only work in an environment of social cooperation. To attempt to prevent the peasant in a Muslim country from keeping enough grain to feed his guests, by compelling him to sell to a Government agency, merely causes resentment and open refusal to comply with orders.

Yet no allowance was made for these points in the official instructions issued to the district authorities who were to work the scheme. In fact, a rough rule of thumb was suggested, that "notices should first be served on holdings of over 50 acres: and should not demand more than 2 maunds¹ per acre . . . but on irrigated land or for any special reason more than 2 maunds per acre may be feasible." In some districts, this "rough rule of thumb" was taken to be a firm order from Government (in spite of a circular letter to all Deputy Commissioners dated 24th April, correcting this impression, and a Press Note issued shortly afterwards). In Mardan, a flat rate of 2 maunds per acre was levied on all holdings, whether irrigated or not, irrespective of the commitments of the zamindar.

¹ A maund is about 82 lbs.

In Bannu, the first notices were based on the lists of surplus holdings prepared at the time of the 1945 harvest, though obviously only for fortuitous reasons could the same holding have the same surplus in 1946. In the headquarters Tehsil¹ of Dera Ismail Khan, the notices were issued before the patwaris' lists of surpluses were prepared--and consequently had to be withdrawn for amendment. In Kulachi Tehsil of the same district, notices were issued only on holdings of 50 acres or more, levying a flat rate of 2 maunds an acre.

It might still be claimed that, had the instructions been observed, the mistakes made in assessment would have balanced out. In a year of normal harvest, the underestimate of yield implicit in the principle of Settlement calculations would compensate for the omission of adequate allowances of grain for guests or village laborers--which in any case were wasteful of food. But as we have said, 1946 was not a normal year, and the demand was certainly pitched too high in many areas. In Nowshera Tehsil of Peshawar District, for example, the total surplus was assessed at 1,100 tons, and the Tehsildar (whose decision on appeal was final, according to the Procurement Order) turned down all objections lodged with him; but the Minister found it necessary to reduce the demand to 480 tons. This may have been justice, but the new assessment was an arbitrary guess, and did nothing to rehabilitate the principle of compulsory procurement in the district.

In fact, the Provincial Government was on the horns of a dilemma. If careful attention had been given to each factor relevant in assessing a surplus, the bad harvest would have forced the total assessment down, below the target fixed for each district. But the latter figure was a more or less arbitrary share of the target for the Province as a whole, which, as we have seen, had really been fixed by the Government of India in drawing up its annual Food Plan. Logically, each target figure should have been built in turn from the sum of the estimated individual surpluses. But the exigencies of the post-war food shortage compelled the Government to work backwards, largely in the dark; and the spurious accuracy claimed (with the force of the law behind it) for the individual notice must have been infuriating to many farmers. Even if the correct net surplus had been arrived at, few zamindars would have been unable to find one factor in the calculation in which they could claim to have been overassessed, and no amount of argument that this was offset by underestimates in other factors would be likely to convince them of the justice of the notices served on them.

Clearly therefore, accuracy in the assessment of surplus was not achieved anywhere, and most likely would not have been possible even if preparations had begun much earlier. This means that the service of notices, compelling a zamindar to deliver a stated quantity, and making him liable to punishment for non-compliance, was not justifiable and that it would be difficult to conceive an alternative method of compulsory procurement from individual proprietors that would operate equitably. Even the provision for hearing objections hardly rectified the situation; and psychologically, great damage was done by the use of threats of imprisonment to support a wrong demand in the first instance. If in a free country the government decides to use compulsion in its dealings with an individual, it must be prepared to justify its demands on the individual in detail before it can punish him for non-compliance. In assessing income tax, the state can justify its demands by examination of accounts and by accurate calculations from documentary evidence. Unless the same degree of accuracy is possible in the case of each holding from which the surplus of food grains is levied, the issue of "notices" is not a satisfactory weapon for procurement. Even allowing for possible improvements in administration, the fundamental issue about compulsory procurement remains--that the mere assertion by Government that it will take a stated "surplus" from a man does not make it true that he has a surplus of that amount, and the psychological results of pretending that he has may be disastrous.

¹ A Tehsil is a subdivision of a District for land administration purposes. Most Districts had two or three Tehsils. The Revenue Officer in charge of the Tehsil is the Tehsildar.

It is on the question of individual notices that the 1946 scheme stands or falls, and this must be the justification for the detailed attention that we have given to the subject. The analysis shows clearly that the administrative defects of this form of planning were, at the time at any rate, insuperable. To some extent, this was the fault of the district revenue officials, who had to operate the scheme; but it would be most unfair to put the blame on them: the Procurement Order presented a far too complicated addition to their already heavy duties. At the same time, the staff of the Food Department, which was imposing this unreasonable task on untrained colleagues on the Revenue staff, was itself insufficiently experienced and overworked and was left with too little room for manoeuvre by the instructions imposed on it by the Government of India. The latter, in turn, was at the mercy of inadequate information about deficits from deficit provinces and surpluses from surplus provinces, and above all of its own shortage of foreign exchange and the world's shortage of foodgrains.

IV. Administrative defects and problems.

The bad psychological impact of the scheme was not lightened by the administrative difficulties that occurred in its execution. For example, zamindars were instructed by their "notices" to deliver wheat at a specific mandi (market) by a certain date. It was widely argued that the purpose of this order was to secure for Government the use of the zamindars' transport free of charge. Many zamindars alleged that they had no transport available at the time for which the delivery was called, and this was often true. In June, for example, bullocks would often be employed in preparing the land for the autumn crop; and in Mardan District the zamindar would be more anxious to take his tobacco crop than his lower-priced wheat crop to the markets before the summer rains came and hampered movement. On the 1st of June instructions were issued to the Deputy Commissioners of Peshawar and Mardan, directing them to arrange for transport of foodgrains from the villages, if requested by the zamindars, but at the zamindars' own expense. This arrangement would, of course, reduce the incidence of transport costs, because all the zamindars of a village would be producing their wheat for transport at the same time. The importance of this is that it proved quite early how necessary it was to modify the extent to which compulsion was used against individuals, in order to secure more wheat. The evidence shows that this modification was partially successful, although its benefits were limited by the increasing political opposition to the scheme.¹

Another early modification of the Procurement Order concerned the analysis of foodgrains. At first it was contemplated that all deliveries would be scientifically analyzed for divergence from the official specification of fair average quality. It was soon realized that, although it might be possible with difficulty to train all the officials in charge of the mandis in scientific analysis, the work was so laborious that they would never bother to do it properly, and it was eventually decided that visual inspection would suffice. Instructions were issued fixing a flat rate of payment for wheat for the different mandis of each district, and prescribing that an additional quantity of wheat should be taken from each zamindar to compensate for losses incurred by Government on account of dryage, or cleaning, or subsequent weevilling. This additional levy was officially called karta, and a fixed amount of karta per maund was prescribed for each district. It varied from $1/2$ seer² to one seer, and no payment was made to the zamindars for this quantity. Karta belonged to Government, and not to the syndicate of wholesale grain dealers operating the mandi. This was a simplification of the conditions of purchase, but it meant that inferior wheat, was now being paid for at the same rate as superior wheat, and there was a temptation to zamindars to mix other foodgrains or dust with their wheat. To counterbalance this, the Mandi Officers were allowed later to forego the levy

¹ An added attraction was the issue of supplementary petrol coupons (at a time of strict petrol rationing) for the transport of foodgrains, since this brought down the cost of transport on motorable roads.

² A seer is about 2 lbs.

of karta if they were satisfied with the quality of wheat delivered; and a practice which had unofficially become firmly established in Bannu was extended officially to the rest of the Province. This involved "rolling" at the time of weighing, to ensure that most of the dust fell to the bottom of the heap, where the last few maunds were properly cleaned before weighing. In some places a small deduction in price was also made if the admixture of other foodgrains was obviously excessive.

The reactions to the charge of karta varied from place to place, but generally speaking it was viewed with suspicion by the zamindars, and it was certainly another factor in encouraging their opposition to compulsory procurement. It raised various accounting difficulties which need not be elaborated here, and the system was liable to abuse by either the Government officers supervising the official mandis or the syndicates of grain dealers who were licensed to operate them or by both in collusion. The syndicate's responsibility under the Order "to make good any loss that may occur due to avoidable causes" in respect of wheat stored in its godowns became difficult to determine. Zamindars who had pure wheat of the best variety to deliver resented being asked to give karta. In the end, a "modus operandi" was evolved, but it would have been better if the Government had been taking over foodgrains in bulk quantities from wholesale dealers, and analyzing and making price deductions for divergence from quality at that stage.

These illustrations all show how difficult it was to work the Procurement Order in practice. A law is never good unless it is easily enforceable, and perhaps the best criterion of the effectiveness of the Order was the failure of the police to detect infringements, although it was generally admitted that infringements were commonplace. Yet, of all Government controls perhaps this was the most vital for the welfare of the province in 1946. It would be unfair to blame the police for lack of success, because many of the provisions were almost impossible to enforce in practice. For example, transactions of less than 20 maunds were permissible, but it was asking too much to make a purchaser of less than 20 maunds to give a receipt in a prescribed form to the zamindar; still more so to require the zamindar to hand over the receipt within seven days to the patwari. These and other difficulties were all inherent in the original notification and subsequent amendments. Once they had been met, the procurement scheme in practice was a much modified version of the scheme notified in the N.W.F.P. Government Gazette.

V. The interplay of political and economic factors.

In reviewing the progress of procurement in the course of the summer, one is reminded time after time of the effects of the interplay of political and economic factors on the success of any administrative effort to achieve an economic objective. The political element interfered with administrative efficiency in several ways. As we have seen, the scheme itself involved a usurpation of most of the functions of the grain trade by the state, and normal business dealings were replaced by a mass of official paper work. In the absence of a special skilled bureaucracy to deal with this, the revenue staff, which was the firm foundation of the machinery of Government in the rural areas, was distracted from its proper functions, and became involved in inevitable mistakes in assessment. As soon as this happened, its influence over the zamindars was impaired, and confidence in the long-established processes of efficient Government was infected by doubt and justifiable annoyance. Complaints were made to Ministers, who often acted hastily to discredit the authority of senior revenue officers, and in some cases to transfer Tehsildars and their subordinates just when their local knowledge was most needed and it was essential that confidence in their judgment should be upheld or restored.

Attempts were made to close the ranks politically by forming advisory committees on procurement in each district, and appointing to them members of opposing political views. But these committees sought to do more than give advice, and attempted to interfere in executive matters such as price-fixing, regardless of the Government of India policy. They also tended to be badly-

informed, and to broadcast inaccurate statistics about procurement which were more liable to cause panic about the food situation than to promote deliveries of grain. The same difficulties occurred with the members of the provincial legislative assembly, to whom the Revenue Minister had issued an appeal for cooperation. Apart from tending to emphasize and publicize difficulties rather than helping to overcome them, some of these gentlemen were tempted even to "pass orders" modifying official notices, without reference to the procedure laid down in the Procurement Order. This they did inevitably with the best of intentions, but the resulting confusion was not helpful to the aims of the Provincial Government.

No matter what kind of procurement scheme had been adopted, the political condition of the province--as we saw earlier--would have been one of the biggest obstacles to procurement, and one of the biggest flaws in the 1946 Order was that it ignored this problem altogether. Thus, the opposition inherent in the political situation was invited into the open by the use of compulsion, rather than avoided by adaptation of more normal trading methods to suit Government purposes. At first it was hoped that the full cooperation of all political parties would be available. Mr. Jinnah as well as Mr. Gandhi had called for every assistance for Government procurement of foodgrains from the general public. But the opposition of the Provincial Muslim League Party developed during June, and early in July its Provincial Committee called on all zamindars to withhold wheat from Government.

Quite apart from the sharpening of the conflict between the Congress Party and the Muslim League about the political issues involved in the future of India, there were important economic reasons for a focussing of discontent on opposition to the Government's food policies. It had been realized in the Secretariat that the continued shortages of cloth, sugar, kerosene oil and other commodities in the rural areas would be a handicap to procurement. For some years past the money income of the zamindar had been relatively high, and the commodities which he required had been subject to price control, but in very short supply. The ordinary economic inducements to him to sell his wheat therefore no longer operated. From his point of view, there was nothing attractive in the use of force by Government to make him sell wheat at the controlled price, when the Government had not fulfilled its responsibility to supply him with cloth or sugar at the controlled price. The zamindar was not concerned with the reasons for these economic difficulties, nor with the fact that the scarcity of foodgrains was much more serious than the scarcity of other articles including sugar, for which a substitute was available to him in the form of *gur*. Accordingly, arrangements were made to supply cloth in greater quantities to those areas where procurement succeeded, and the ration of kerosene oil for rural areas was increased at the beginning of June. In the same month, the Provincial Government imposed a cut on the urban ration of sugar, in order to increase supplies to the rural areas. But these measures were either inadequate or so slow in their effects that propaganda against procurement of foodgrains on the grounds that there was maldistribution of other commodities achieved considerable success.

In view of this argument, the comparative success of the scheme in the southern districts of Bannu and Dera Ismail Khan before the end of June requires further discussion. Up to that time, the intake of wheat there was greater than in the same period for 1945 (when procurement over the whole season--that is, up to mid-August--had been successful in these districts). During the same period, the results in Peshawar and Mardan were only slightly better than in 1945, and were far below the target figure. But the chief reason for early success in Bannu and Dera Ismail Khan and failure in Peshawar and Mardan was not that the people of the southern districts feared the element of compulsion more than the people of the northern districts, but simply that their economic circumstances compelled them to sell their wheat and gram, or a proportion of it, in order to get money with which to buy necessities of life, while in the northern districts the zamindars could sell their tobacco or their sugar-cane or their barley, and withhold their wheat, in the hope of getting a better (i.e. a black market) price for it. Wheat came into the Bannu and Dera Ismail Khan mandis early because the harvest was early, and not in response to procurement notices; while it stopped coming in long before the target was reached because the yield was poor. A good crop in

Bannu Tehsil, for example, especially round Maurang, had been more than off-set by the serious absence of rain in the sandy tracts of Lakki, where zamindars in any case have to retain two or three years' supply to guard against repeated failures of the rains.

On the other hand, though it was true that political opposition was strongly concentrated in the most fertile parts of Mardan, there was also a straightforward economic explanation for the failure of the scheme there. As we have seen, wheat was no longer the cash crop, and even the revenue records showed an increase of 25,000 acres under cane in 1946 in Mardan and Peshawar Districts as compared with 1940. These irrigated acres would have produced some 20,000 tons of wheat; and this figure is probably too low an estimate of the fall in wheat production in the northern districts, because the revenue records probably underestimated the extent of the switch from wheat to cane. Two estimates of the crop yield in 1946 are available. That of the Revenue Department for Mardan, the key "surplus" district, was 61,400 tons. It was based on the acreage shown as sown with wheat at the crop inspection, and the "normal" yields assumed at the Settlement; and we have seen reasons why both these figures might be too high to measure the 1946 crop accurately. The other estimate was derived from crop-cutting experiments by the Agricultural Department, which provided the data for computation by the Statistical Department of the Government of India. For 1946, this estimate for Mardan was 54,100 tons, as compared with 73,500 tons in 1945.¹

Even if we take a rough average of these estimates, the signs are that the 1946 Mardan crop was at least 15 per cent less than in 1945, when the scarcity of foodgrains was already notorious. When one considers that the aim was to procure a surplus, not to commandeer a fixed proportion of whatever was harvested, a decrease in outturn of this proportion makes it remarkable that anything should be procured at all. Mardan was the key district, because it normally produced the biggest crop and had the biggest surplus for export (having only the town of Mardan as a dependent urban population to feed--about 50,000, many of whom would nevertheless have land of their own). Yet by the middle of July there were more signs of a serious shortage of all the foodgrains in Mardan than in Peshawar, with its much bigger urban populations. In Mardan town, wheat flour could not be purchased; while the effective price of barley and maize was well above the controlled rates. (There was no restriction on the movement of these grains into Peshawar District. There were no arrangements to sell wheat flour in official food depots in Mardan, although under the Procurement Order it could have been made a "provisioned area" to enable this to be done. Wherever there is scarcity there is hoarding, and it is probably no exaggeration to say that on average each of the 50,000 inhabitants of Mardan town alone took the precaution of "laying-in" a maund of wheat in store: if this guess is valid, it would mean that 2,000 tons out of the official target of 6,000 tons were diverted, not to the procurement agency, but to the inhabitants of one town alone.

The pattern of this analysis must have been repeated elsewhere, so that against the fall in supply had to be set a corresponding rise in demand. In many deficit rural areas (like the Khattak country in Kohat, and many parts of Hazara) the official arrangements for food distribution were tenuous and difficult to improve, and it was profitable for innumerable petty dealers to infringe the various controls and indulge in small transactions as middlemen between zamindars with surpluses and others who decided in the circumstances to build up small stocks of grain. Many of the bigger villages and small towns which had survived previous crises without special relief now required a rationing scheme: but proposals to extend the urban rationing scheme in the spring had been rejected by the Government. All this involved the increase of private demand for scarce supplies, in competition with the official procurement agencies at the mandis, and the latter were bound to lose on the issue of price, even if political considerations had not

¹ Unfortunately, the district-wise estimates based on crop-cutting experiments began only in 1945, so that there is no long series available for comparative evaluation of the 1946 estimate. But the Government of India put the probable error in this estimate no higher than 2 per cent.

been important.

VI. Summary and Conclusion.

To summarize, it must be said that the 1946 scheme began under an insuperable handicap, imposed by the all-India food position, of having to try to procure more grain than the rural areas could spare in the year of poor crops. At a rough estimate, the original target of 23,000 tons was about twice as much as any scheme could have extracted. But on top of that, the scheme itself was too complicated, attempted to be too precise in dealings with individual food producers, and had to be operated by an inadequate and untrained staff. Consequently mistakes were made in enforcing it, and these added to its unsuitability by making it unacceptable to the Pathan zamindars, whose natural temperament resisted the principle of compulsion which lay behind it. Their attitude of non-cooperation (which would have existed in any case) was strengthened by the special political and economic circumstances of the time. In the spring of 1946, the prospective deterioration in the food position compelled the Government to try to improve on the rather loose procurement arrangements of the previous year. The history of their attempt at a more efficient plan shows how easy it is in such circumstances for relatively inexperienced planners to interfere at the wrong points, injecting grit into the economic system instead of lubricating oil, thus hampering rather than promoting the achievement of desirable ends.

This criticism is not confined to the statesmen and politicians of a particular party. As we have seen, neither of the chief political parties behaved well, in spite of the appeals of Mr. Jinnah and Mr. Gandhi, in allowing the people's food to become involved in their party manoeuvring. But the civil servants who advised the Ministers (of whom the writer was one) cannot escape criticism. They acted with the most honorable intentions, but the scheme they devised relied too much on the assumption that mere legislation can controvert the principles of economic behavior, and that economic controls will automatically achieve the ends for which they are designed, regardless of the public reaction to them or of the competence of the staff administering them. Yet they were men whose broad political outlook was traditionally and strongly liberal, who were helping to pass on that heritage to the country in whose government they assisted. The moral is clear: in the administration of an underdeveloped country, and in the planning of its development, enthusiasm for the objective must not blind us to the practical difficulties of political economy. Amongst the factors which control the rate of economic progress are the ability of the planners to keep ahead--but not more than one pace ahead--of the capabilities of the administrative staff, and to minimize the friction between their innovating policies and the existing social and political framework.

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AN ITALIAN CONTRIBUTION TO THE STUDY OF ECONOMIC GROWTH*

I. Introduction

To those interested in the problems of economic growth, the "Theory and Policy of Economic Development" is a most refreshing and stimulating book. It comprises a digest of seventeen independent essays contributed by an equal number of writers and ably assembled by G. U. PAPI; its essential merit is certainly that of attacking this problem from various sides without sacrificing unity of thought or incurring in tedious repetitions, while its weakness is inherent in the very difficulties presented by this field of analysis.

Some of the essays consist of a classification and interpretation of economic theory on development, collected from classic or modern economic doctrine, while other search for new ideas in this fruitful field. All of these are successfully blended with writings dealing with economic policy questions and with others focussing attention to test cases. It would be a time-consuming effort to describe the wealth of ideas included in this publication, and this review is necessarily confined to the most original contributions, perhaps not so familiar to the English speaking world, which are found in the three sections of the book: history of ideas and theory of growth, economic policy suggestions and test cases.

History of ideas and theory of growth: In the classical writers, in Marx and Schumpeter we find the spadework of growth analysis; their contributions are summarized uncritically by A. GAMBINO and P. S. LABINI. The reader is reminded that Smith, in his constant search for the basic conditions of the progress of nations, based his thinking on the idea that economic growth stems from capital accumulation, viz. from structural changes leading to a rise in the wage level. GAMBINO finds the same principle to be the basic in Ricardo's contribution; the profit motive is the main driving force of capital accumulation, labor and savings the foundations of growth, its limiting factor being the long-term decline in profits resulting from the rise in the prices of subsistence goods. The conflicting ideas of Malthus, his concept of the beneficial effect of unproductive consumption, and of the basic importance of an increase in the "value in exchange" is a misconception due to his failure to see that what is saved is what is spent, that an increase in savings does not correspond to a fall in effective demand.

P. S. LABINI takes up from here with his interesting synthesis of the thought of Marx and of Schumpeter. The analogy between the concepts of "surplus value" of Marx, and of "social rent" of Smith, as well as the fact that Marxian ideas are based on Ricardo's pessimistic thinking, is recognized by Labini who synthetically presents Marxian thought; capital accumulation originating from the general desire of the entrepreneur to increase the surplus value; spreading of innovations throughout the system owing to competition; rising labor costs, both part of the cost of production and of income; unemployment and recurring business fluctuations; long-term decline in profits and appearance of monopolistic forms of production.

Schumpeter, whom Labini calls a "conservative Marxian," does not separate between cyclical and long-term trends, the cycle being the normal form of growth in the capitalistic system, the entrepreneur the agent responsible for the surplus value, which, in Schumpeter's scheme, is also gradually declining. With the difference that to Schumpeter the seeds of the downfall of capitalism do not reside, as in Marx, in the fact that population does not grow enough to keep the process in perpetual motion and that profits decline in the long run; to Schumpeter

*Giuseppe U. Papi, editor, *Teoria e politica dello sviluppo economico*, Milan: Dott. A. Giuffrè, 1954, pp. 567, Lire 3000.

the factors undermining the system are of a social nature, amongst them the declining importance of the entrepreneur in an economic world characterized by an ever increasing concentration of wealth and of ownership.

The early writers and Schumpeter have thus analyzed the chief determining and limiting factors of growth: increase in population, capital accumulation, decline in profits, increasing concentration of wealth and of ownership, disappearance of the entrepreneur. Have modern writers added anything to this general scheme? We are tempted to adopt M. De Luca's classification of modern thinking: to him, modern writers have concentrated either on the factors bearing on: "investment" or on those bearing on the availability of resources. The classification appears satisfactory; perhaps the qualification should be added that it may be a question of emphasis according to the economic structure of the country to which the analysis applies and which can be classified, in the distinction now so popular, as over or under-developed. Theories concentrating on the investment outlets may be exogenous or endogenous, the former including those of Hansen (secular stagnation), Colin Clark, A. C. D. Fisher, and Jean Fourastier (technical progress of agriculture and population shift to higher forms of activity) to mention only a few; the latter including the ideas of Schumpeter, Steindl, Guitton, with emphasis on the imperfection of competition, or of Achinstein, with emphasis on the lengthening of the productive process, the rigidity of the price system, etc.

Amongst the economists who devote their attention primarily to the availability of resources we find mention of G. U. Papi, who explains under-development in terms of a lack of proportions amongst productive factors; of Rosenstein Rodan, who explains it in terms of the "minimum quantum" of social overhead; as well as of Ohlin and of Fanno.

Of course, it becomes irresistible to deduct from these theories a policy suggestion of world-wide application, i.e. the underdeveloped countries should receive a flow of investment from countries needing new economic frontiers. But on second thought this solution is found simplistic; the foreign investment flow, reasonably to be expected, would not be enough to set the process in motion. De Luca concludes by drawing attention to organizational capacity as an essential factor of growth.

There remains a question of definition and of measurement discussed by F. Pitigliani who reviews uncritically the writings of the American heterodox school of thought concerned primarily with the methodology of measurement of population changes, national income flows and capital accumulation. It may be interesting to paraphrase the chief conclusions he derives from the contribution analyzed, i.e., that economic development is a national phenomenon measured by the increase in national income; that the extent and the growth in income depend on certain technological relationships such as the increase in capital, population shifts, etc. Later, Pitigliani makes a short investigation of present-day Soviet thinking on such problems as investment, the time factor and the location of industry.

It is now necessary to concentrate on the original contributions in the discovery of the determining and limiting factors of growth as set forth here and there in this book and conceived, presumably, in the environment of Italy where development and underdevelopment coexist side by side. The central contribution is that of G. U. PAPI who regards the main limiting factor of development as arising from the disproportion amongst factors of production (labor, land, capital, mining resources, etc., etc.). But it is M. RESTA who, in his essay, fully explores the implications of this idea in an attempt to explain why areas in a good stage of development should coexist with areas with a slow process of growth. In his words, it is a question of a "macroeconomic production function," development being "the long-term effect over structure of changes in the economic structure itself." Later he attempts an empirical definition of strong economies characterized by the availability of resources and of real capital in excess of labor and of weak economies where the opposite is the case. Such a distinction appears to fit well the Italian case but not cases where the proportional relationship of factors may be characteristically different.

Resta concludes that economic development is slow when labor increases at a quicker pace than resources, a pessimistic view strengthened by the somewhat unfamiliar thought that savings is no solution since it does not deduct from total consumption but only represents a change in consumption pattern. His conclusion is that a weak economy tends to remain weak unless there should be a remarkable shift of resources from one country to another, through foreign investment, migration of labor, etc., etc.

An interesting viewpoint is explored by V. MARRAMA. After expressing his dissatisfaction with the scanty attention devoted by modern theory to the social and political factors involved in growth, after analyzing foreign investment from the viewpoint of the socialist post-Marxian writers, he draws attention to what he considers a further essential determining factor of development. Trends concerning the import capacity should be taken into consideration in addition to population growth and capital accumulation as determining factors of growth. From direct observation he subscribes to the idea that the "export income" of underdeveloped countries fluctuates broadly, from year to year; he also accepts the less easily granted point that their "import capacity" tends, in the long-run to decline (long-term trends in the terms of trade), and calls attention to the faulty utilization of resources in underdeveloped countries (demonstration effect of Nurkse).

Notwithstanding the large number of suggestions for a better diversification of trade with respect to underdeveloped countries the problem of the difficulties surrounding capital accumulation in such geographical areas is still waiting for a solution. Perhaps economic theory, to be of some use, should concentrate on the problems involved in the search for the most rational utilization of the limited investment resources available. Thus we transfer the reader to the fruitful field of investigation relating to capital formation and investment criteria, a subject which appears rather unexplored due to the general belief of the existence of self-equilibrating forces which lead to the most rational distribution of resources amongst investment outlets.

This suggestive field of analysis is entered by F. CAFFE and by G. DELLA PORTA with their interesting essays. Caffe summarizes critically the well-known contributions of Nurkse and of Rosenstein-Rodan in the analysis of investment criteria: his conclusion is that "the best criteria are based on social choices which assure coherence and continuity," helpful but still vague. In DELLA PORTA's essay we find a summary of modern ideas on the general economic aims of investment, which could be the basis for the establishment of priorities: a) "minimum-quantum" of social overhead with the choice remaining between all or nothing (Rosenstein-Rodan); b) collective welfare defined as the minimum flow of real consumption (Leon Buquet); or c) capacity of investment to originate a lasting flow of income (G. U. Papi). The essence of these different approaches is combined in a final suggestion concerning the choice of investment. Later Della Porta analyzes "innovations" in the field of public investment within the framework of the proportionality of factors, i.e., the effect of innovations on the macroeconomic production function, with an analysis of changes in the marginal productivity of labor, land and capital resulting from innovative public investment.

The short contribution of G. F. MALAGODI is mostly concerned with extra-economic factors of growth and constitutes an interesting addition to the rest of the book which seems to lean very much on the quantitative approach. He concludes that development is not merely a question of savings and of investments but rather of the adaptation of investment to the existing social and economic environment.

Economic policies: The problems of taxation and of public spending arising in connection with underdeveloped countries are examined by V. SELAN and by G. GERA. Both agree on the need of devising a new approach in the analysis of this problem, extensively deviating from the traditional ones of neutral, anti-cyclical or redistributive finance. The need for a new viewpoint will be shared by the reader, with the qualification that, in practical cases, it is almost impossible to pre-assign to public finance a specific purpose and with

the corollary that very often compensatory finance appears a necessity if one considers the broad fluctuations in income and in activity resulting from the recurring fluctuations in the terms of trade so common in these economies. However, one can generally agree that the chief objective of fiscal policies in a "closed" underdeveloped economy is primarily that of setting in motion "a mechanism of savings-investment-income" or of "encouraging savings and investments."

Having thus laid out the general aims of policy it is not hard to agree on the insurmountable difficulties of the task of estimating the economic impact of taxation and of spending in a macroeconomic model--especially when one considers, with Gera, that the difference of opinion is so great even in such comparatively simple phenomena as the shifting and incidence of tax.

Selan courageously undertakes to examine fiscal policies and their economic effects in a supposedly closed economy when the objective is that of promoting a shift of resources from the consumption goods sector to the capital goods sector. His model is subject to broad conditions such as that of the maintenance of stability in the price level, full employment and of general equilibrium which should guarantee that the price effect of public intervention in the field of investment should be matched by similar changes in the production pattern. The problem he is coping with is evidently too big and his methodology unrewarding; the only thing he can hope to achieve, at this high level of abstraction, is to point to the relationships between an almost infinite number of variables.

Gera remains a little closer to reality and his conclusions have practical implications. He establishes a general scheme of priority in the forms of taxation in underdeveloped countries and adds new thoughts in the debated field of the incidence and shifting of tax. He is an exponent of the idea that the lower the stage of development the more suitable are the indirect or regressive forms of taxation. His criticism of the income tax or of the progressive income tax in underdeveloped countries is quite useful but not fully convincing. His preference for indirect forms of taxation is based primarily on their small impact on productivity, and on their flexibility, a fact generally accepted in practice. However, he seems to skip over some evident disadvantages of this form of taxation in the field of income distribution. The thought may be added that direct income taxation, coupled with exemptions, etc., permits a better control of investment, while indirect forms of taxation (custom duties) often establish a "perverse" form of protection increasing the profitability of industries with a very low social productivity. The dilemma is difficult to solve unless other forms of investment control should be devised.

F. CLEMENTI devotes his essay to a review of principles of foreign trade policies and makes some suggestions for the gradual re-establishment of world trade equilibrium, which, he observes, was disrupted in the thirties by the nationalistic economic policies then prevailing and is still disrupted by the fear of a new depression: his main suggestion concerns the revival of foreign investment in underdeveloped countries and the gradual reopening of trade channels through a necessary phase of regional trade. Only this system, he claims, could guarantee the maintenance of full employment conditions and eliminate the fear of a new depression. This idea does not differ basically from the one advanced, earlier in the book, by De Luca, and rejected by him.

Test Cases: The essay contributed by SVIMEZ is a summary of a study made by the same institution, i.e. a projection of the long-term development of Southern Italy on the basis of a revised input-output analysis model. While the static model only yields knowledge of the technical coefficients, while the dynamic approach leads to an understanding of the capital goods transactions between sectors, the approach that SVIMEZ calls of "comparative statics" requires the overall equality between the total quantity of investment goods produced by the system and the sum of all the sectorial investment requirements to sustain the assumed rate of growth.

The model is based on the following steps in their order: 1) establishment of a tentative but satisfactory rate of growth; 2) calculation of the growth in all the items of final demand; 3) determination of the rate of production by sector; 4) calculation of the rate of investment necessary to sustain such growth; 5) checking on the compatibility of (4) with the flow of savings both national and foreign; 6) final reconciliation of all trend and corrections to (1).

In the essay contributed by C. ARENA the reader will find a stimulating description of the economic and social problems characterizing retarded growth in Southern Italy by way of contrast with the situation in the Northern part of the country. Many of the theories and of the explanations presented in the earlier sections of the book find their practical application and demonstration in this particular environment characterized by the widespread maladjustments between available resources.

The last essay, contributed by C. DE SIMONE, contains a description and evaluation of the labor so far accomplished by the network of international organizations in the field of growth stimulation. A separate review is made of the financial and of the technical assistance aspects of International Organizations Aid.

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The reading of the "THEORY AND POLICY OF ECONOMIC DEVELOPMENT" is highly recommended for the imaginative manner in which the problem is visualized, for the fair presentation of a large body of thought and for the thoroughgoing analysis of the multifaceted problem of economic growth. The work is indeed a testimony to the lively interest existing in the Italy of today for the problem of economic growth.

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Bruno Brovedani

Bogota, Colombia

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